

# Soap

## *Antibacterial* Quality...

WHY should you be satisfied with less than the best? To completely eliminate any question of varying quality, it behooves you to specify Ungerer soaps. Let it be admitted that the securing of some materials has become a tremendous problem today. But may we suggest that you pass this problem on to

us, that you let Ungerer facilities work in your behalf?

For a series of decades we have always been in the position to secure the finest quality of aromatic chemicals and essential oils from primary sources of supply. This Ungerer record of success can be your best assurance of receiving Select Quality.

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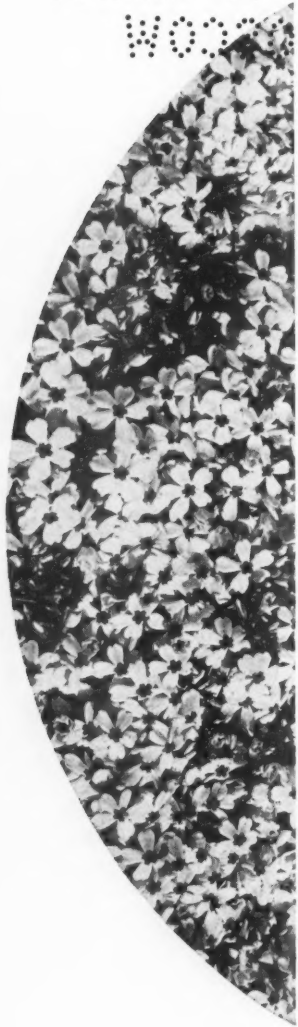
New York



## and Sanitary Chemicals

# Soap Perfumes

YRABILI  
OHADI TO VINU  
WOOHIN



**O**DOR is perhaps the most important factor in the successful merchandising of toilet soaps. Competition being what it is today, the up-to-the-minute soap manufacturer is insisting on the very best possible perfume available, at a price within reasonable limits.

Our laboratories, based on the long experience of our suppliers Chuit Naef & Cie., Geneva, Switzerland, are turning out remarkably fine floral and bouquet odors for toilet soaps at surprisingly low figures.

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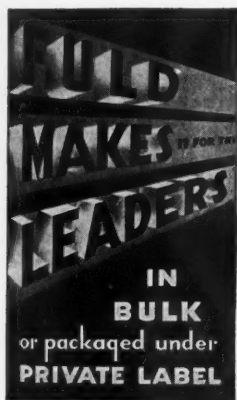
●





**With Quality  
To Spare—This  
Salesman  
Cuts Loose With**

# **FULD'S SOAPS *and* CLEANERS**



Soap is his pet—his baby! His confidence in Fuld-made soaps and cleaners is unshakable. He leads with a lather and wins with an order. He outsells because he outshines. He is selling soaps and cleaners which he has learned through comparison to believe in.

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..jotters  
ONLY!*

DEODORANT BLOCKS  
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# V I S I O N



Photographs courtesy of United Air Lines and Aviation Magazine

Great scientific discoveries and inventions spring from extraordinary imagination and vision. It was this vision on the part of the Wright Brothers and others that brought about the development of our modern airplanes from the frail, uncertain "flying machines" of the early nineteen hundreds.

So, too, COLUMBIA visions the importance of research in the alkali industry by maintaining at Barberton, Ohio, one of the largest and most up to date research laboratories in the industry, complete with the most modern equipment, much of it specially designed. This research is supplemented by extensive pilot plant operations which bring the results of research up to the production stage.

We believe that through constant effort under such favorable conditions will come new developments, new conveniences and savings for our customers, and a still wider sphere of usefulness for the basic raw materials which COLUMBIA produces.

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**SODA ASH**—For saponification of fatty acids, neutralization of glycerine lyes, as a builder for laundry soaps, and as a constituent of soap powders.

**CAUSTIC SODA**—For all forms of soap products where sodium hydroxide is employed for saponification. The high degree of purity and freedom from iron salts make COLUMBIA Caustic Soda particularly desirable for white toilet soaps. Available in 76% Flake, 400 lb. drums and 50% and 73% Liquid, tank cars.

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# Soap

Volume XVI  
Number 3

*and Sanitary Chemicals*

Reg. U. S. Pat. Office

MARCH  
1940

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**IF YOU  
EXPECT FOLKS  
TO USE MORE  
HAND SOAP...**

**WHY ANCHOR HOCKING  
CAN SERVE YOU BETTER!**

At Anchor Hocking, you will find a service organization thoroughly reliable and capable of handling your complete package requirements from container, to closure to carton—including sealing equipment. You deal with one dependable source of supply and benefit by the many advantages this offers.

Backed by years of experience, Anchor Hocking designers, engineers, research and laboratory technicians are ready to assist you with the proper handling, preparation, packing and sealing of your product. All the facilities and services of our organization are yours without obligation. Give Anchor Hocking **COMPLETE RESPONSIBILITY** and you'll be completely satisfied.



**PACK IN GLASS  
FOR GREATER SALES  
AND PROFITS!**

**ANCHOR**  
-an unbeatable com-



Here is the  
package re-  
Anchor Hock-  
sided glass  
smert...  
Amo

**... MAKE YOUR  
PACKAGE MORE  
ATTRACTIVE  
MORE  
... CONVENIENT**



● Volume sales are just as important for hand soap profits as they are with hundreds of other items sold to the consumer. When your hand soap is hidden in garages... buried in cellars... or lost in dark cupboards, you can't expect volume and fast turnover. But, dress up your product in this attractive glass package, add a dash of modern merchandising, and you'll find sales increasing—you'll find it handy, being used more in thousands of kitchens and bathrooms.

What are the practical and merchandising advantages of Glass? That's easy. With the Glass package, there's... no rust or corrosion... no drying out with the efficient Anchor Amerseal Cap—a convenient cap that may be easily removed and resealed with a simple quarter-turn. As to merchandising, well, Glass offers the highest possible "eye appeal." And with Glass, your hand

soap may be distinctively colored for quick identification.

Yes, you can use this sales-getting, Anchor Hocking Glass Package to build up your hand soap business—take it from the "hidden" to "handy" class—from competitive, slow-moving to quick, profitable turnover.

Anchor Hocking offers you its complete facilities. Experts on every phase of packaging—designers, research technicians and engineers are ready to assist you with the entire packaging problem—from container, to closure to carton. We've a definite merchandising story for hand soap manufacturers. How about a few minutes of your time to tell it? No obligation, of course.

**ANCHOR HOCKING GLASS CORPORATION**  
Lancaster, Ohio

*Closure Division:*  
**ANCHOR CAP & CLOSURE CORPORATION**  
Long Island City, N. Y. and Toronto, Canada

Here is the hand soap package recommended by Anchor Hocking—a straight-sided glass container with a smart... practical Anchor Amerseal Cap.

**Hocking**  
combination

**GLASS  
CAPS**



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Yessiree, there is a WHALE of a difference between Lizzie and Elizabeth and even a more obvious difference between different folk's sanitary products. Perhaps you are using Ampion Products now. If you are, you know the value of regulated quality and their non-varying standard.

If not, won't you write us today, please? You will be under no obligation and there is a good chance that you will be the gainer.

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## CORPORATION

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## PERFUMING AND COLORING NAPHTHALENE AND PARADICHLOR- BENZENE CRYSTALS AND BLOCKS IN ONE EASY OPERATION

With Felton Coloromes, you can be certain to produce deodorant blocks and crystals with *lasting fragrance and color!* Your product will continue to please the nose until the final crystal has evaporated. Try Coloromes without further delay. They're economical in cost . . . and simple to use. Only one easy operation imparts both color and fragrance.

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1 lb. containers	. . . . .	\$1.25 per lb.
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### THE ABOVE ODORS CAN BE SUPPLIED IN ANY OF THESE COLORS —

Amber - Green - Pink - Yellow - Blue - Purple - Red - Violet

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SAMPLES  
TODAY!



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Whether it is a ton of dishes in a restaurant's mechanical dishwasher, or a wisp of gauze handkerchief washed at home, the result is an amazing spick-and-spanness when the detergent formula includes Warner TSPP. Not only is soil removed but calcium and magnesium salts are prevented from depositing, scums do not form, the washed article is film-free—when the solution contains the proper proportion of **WARNER TSPP**

The detergent, deflocculating, emulsifying, water softening and clarifying powers of TSPP make it an important chemical to improve results and reduce costs in cleaning operations. Warner, producer of phosphates since 1886, has ample production capacity and wide technical experience in the application of TSPP. We invite your inquiry for samples, prices and formulae.

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Bromine

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Carbon Bisulfide  
Sodium Sulfide

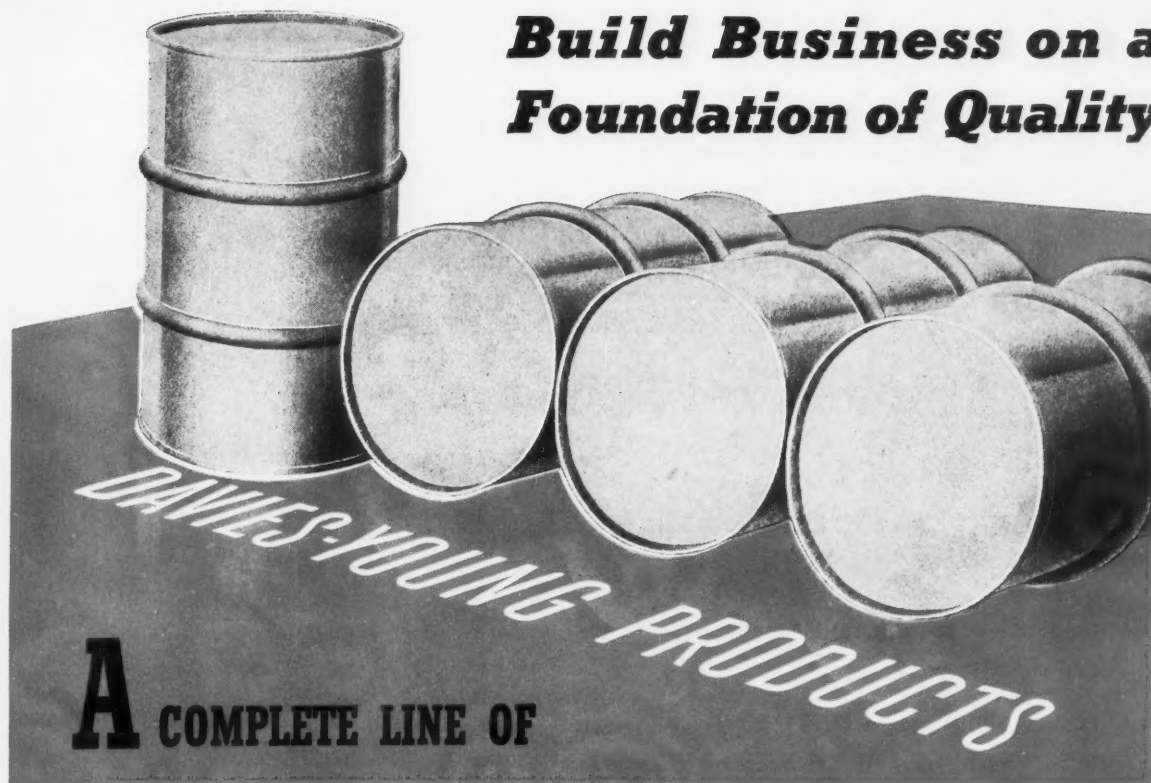
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Chemical Grade Magnesia

CHEMICAL **WARNER** COMPANY

DIVISION OF  
WESTVACO CHLORINE PRODUCTS CORPORATION

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**A** COMPLETE LINE OF

**SOAPS AND SANITARY SUPPLIES FOR ALL YOUR NEEDS**

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Scrubbing soaps and cleansers made from vegetable oils, including such Special Oil Soaps as U.S.P. No. 11, Surgical Green Soap and others.

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Liquid (Floor) scrubbing soaps, compounded for specific types of floors—Buckeye, Sani-Scrub, Florex, Ex-Alk.

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Neutral Soaps, made under rigid laboratory control, insuring clearness, uniform quality, uniform soap content. Line includes concentrated Liquids and Special Soaps such as Surgical Liquid, Infants, Castile and Tincture of Green Soap.

### CONCENTRATED SOAP BASES

For producing Liquid Shampoos and Toilet Soaps and Liquid Scrubbing Soaps.

### LIQUID FLOOR WAXES AND FINISHES

Beamax and Cirene self-polishing waxes; Buckeye Liquid Wax (requiring polishing); Paste Wax, Dance Floor Wax; Gym Finish; Floor Seal.

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Fly Sprays, Moth Sprays, Contact Insecticide and Roach Powder.

**THE DAVIES-YOUNG  
SOAP COMPANY  
DAYTON • OHIO**

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THE DAVIES-YOUNG SOAP CO.  
Dayton, Ohio

We would like to examine your complete Catalog  
of Soaps and Sanitary Supplies.

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Address .....

City and State.....



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Of special interest are DU PONT Tetra Sodium Pyro Phosphate and Tri Sodium Phosphate offering a wide range of characteristics to soap and soap powder producers.

T.S.P.P, particularly, is odorless, aids detergency and cleansing, improves emulsification, sudsing and rinsing.

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**E. I. DU PONT DE NEMOURS & CO.**  
INCORPORATED

GRASSELLI CHEMICALS DEPARTMENT  
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*Specify these chemicals on your next order*



TETRA SODIUM PYRO PHOSPHATE • CAUSTIC SODA  
SODIUM SILICATE • TRI SODIUM PHOSPHATE  
SODIUM METASILICATE • SODA ASH



Consumers welcome Aromatic's new triumph  
—SAVONEX—the product that takes the  
place of Sassafras and costs half the price.

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A NEW LOW PRICED ODORANT THAT OFFERS THE FOLLOWING ADVANTAGES:

1. Water White.
2. Twice the odor value of such products as Sassafras Artificial or Camphor Sassafrassy.
3. One-half the present price of Sassafras Artificial.
4. Maintains its odor in soap longer and more pleasantly.
5. It can be purchased on a large scale here in America and your supply guaranteed.

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Lavender	Y 2665
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Carnation	2586
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Pine Balsam	2728
Type R	

*Requests for Samples on your  
firm's letterhead will be  
promptly answered.*

## AROMATICS DIVISION GENERAL DRUG COMPANY

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Transportation Bldg., Los Angeles  
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# pH and Your Pine Cleanser

*(what is pH anyway?)*

THERE are Pine Cleansers — and Pine Cleansers.

To make the best, there can be no compromise on raw materials. Full bodied, fresh vegetable oils, caustic potash and steam distilled pine oil are *de rigueur* to make that free flowing, transparent, yet molasses-like liquid, so highly regarded by cleaning craftsmen.

The best pine cleansers have that homogeneous, gel-like appearance. But they are tricky products to make. The finished liquid is remarkably sensitive to changes in pH, and each batch has to be carefully tested so as to give the maximum gel strength and yet remain free flowing.

To those who are unfamiliar with the meaning of pH, we append a few words of explanation. Water, harmless as it looks, is actually in electrical agitation. The electrically charged particles are not present in great numbers, but if gathered together would total one ounce in

four million gallons. This ounce would contain positive and negative (acid and alkaline) electric charges whirling around with terrifying activity —yet in kinetic equilibrium—so nothing happens.

Scientists sought a way to express this fact, and hit upon the word pH. It is the logarithm of the reciprocal of the (molar) concentration of the positive (acid) charge in water.—Oh Boy! —The neutral point happens to be pH 7. Suffice it to say that pH 7 is very small, but each time it goes up or down *one* the concentration changes ten fold, e.g., pH 10.1 is one thousand times as alkaline as pH 7.1. But little is little—a thousand times a little is still little— which explains why pH is a valuable and easy way of expressing small amounts of alkalinity greater than 7, or acidity less than 7.

Now we will have breakfast.

For pine cleansers and potash soaps of all kinds—well made—consult CLIFTON.

Pine Gloss Cleaner  
Pine Cleansers  
Shine Brite Cleanser  
Sassafrass Scrub

Liquid Soap  
Liquid Soap Syrup  
Liquid Soap Base  
Catalogue of Complete  
Line

## CLIFTON CHEMICAL COMPANY

246 Front Street

New York, N. Y.



ODAY, Fat and Oil processors are taking out a new type of Insurance . . .  
**NUCHAR ACTIVATED CARBON** . . . Because the use of a small amount assures maximum  
 stability of color and odor.

In treating oils, the addition of a small percentage of **NUCHAR** to the deodorizer insures  
 the oil against deteriorative oxidation due to the excessive temperatures and faulty vacuum,  
 as **NUCHAR** has **SELECTIVE** adsorptive power for peroxide and Kreis bodies.

Many manufacturers recognize the beneficial and economical efficiency of using **NUCHAR**  
 activated carbon in their purifying processes. If you have not already investigated this  
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# Distinctly better

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Our staff fully understands the limitations and requirements of this particular phase of perfumery.

Let us submit suggestions for your soaps that are better in odor value, better in dollar value and better in consumer appeal.

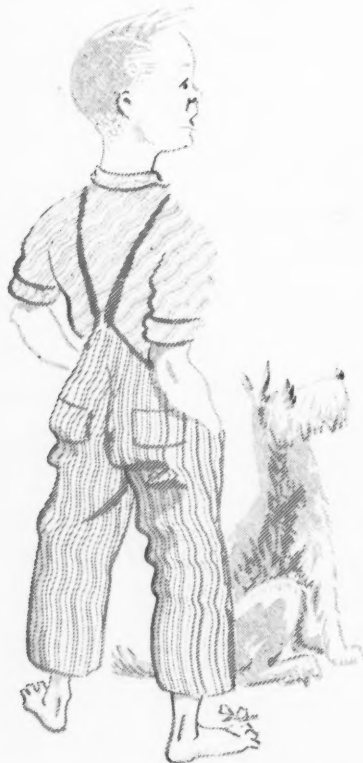


VAN AMERINGEN-  
HAEBLER, INC.

315 Fourth Avenue, New York City

# Strike

## WHILE THE IRON IS HOT



There's news in soap today! Turn it to your advantage while it's still "hot." For never before in the history of soap making has there been such powerful sales material for the manufacturer as found in the new super soap improver . . . VICTOR TETRASODIUM PYROPHOSPHATE.

Now's the time to hammer home the story of more suds from less soap with TSPP's powerful water-softening action. A cleaner, whiter, sweeter-smelling wash, due to its unique "peptizing" and iron repressive action . . . its mild alkalinity (pH of 10.2) that will not tender delicate hands . . . its marked solvent action on gums, waxes and certain other organic materials.

Anticipating the demand for TETRASODIUM PYROPHOSPHATE as a soap builder, Victor spent years developing an improved manufacturing technique adaptable to large scale production. By the time soap makers were ready for its use on a large scale, Victor too was ready to "strike while the iron is hot" . . . ready with ample facilities to meet the demand for a product of improved quality, made in the largest plant of its kind in existence.

### TETRASODIUM PYROPHOSPHATE.. BY..

# VICTOR

VICTOR CHEMICAL WORKS, 141 W. Jackson Boulevard, Chicago, Illinois  
Plants: Nashville, Tenn.; Mt. Pleasant, Tenn.; Chicago Heights, Ill.  
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HEADQUARTERS FOR...  
**pHosphates**





*For SOAPS, DEODORANTS, BATH PREPARATIONS,  
PARA BLOCKS AND OTHER SANITARY PRODUCTS*

*Du Pont Isobornyl Acetate  
is the economical odor base for  
a wide range of products*

YOU can use this popular odor of freshly crushed Siberian pine needles to excellent advantage in soaps of all kinds, deodorants, para blocks, bath crystals and many other sanitary products. Du Pont Isobornyl Acetate in many cases supplements and replaces natural oils which are becoming increasingly difficult to obtain.

It is made from domestic raw materials, so you are assured of dependable quantity and controlled quality. It is water-white, resistant to alkali and non-discoloring. It'll pay you to investigate Du Pont Isobornyl Acetate.

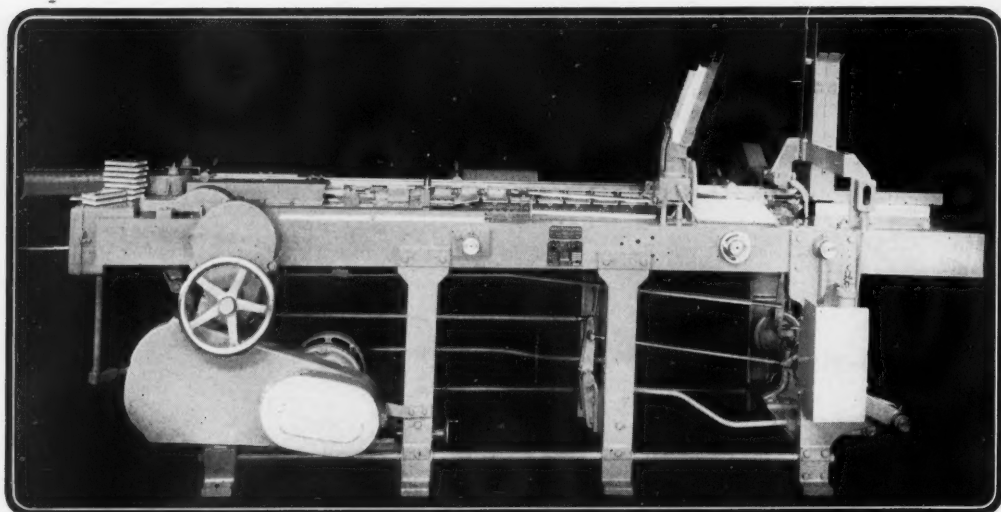
We'll be glad to send you samples and complete information concerning Du Pont's aromatic chemicals. Write: E. I. du Pont de Nemours & Co. (Inc.), Fine Chemicals Division, Wilmington, Delaware.

ANOTHER DU PONT SYNTHETIC AROMATIC



*Aromatics*

# CAMLESS CONSTANT MOTION CARTONER



*... loads 200 cartons per minute  
without noise, strain or vibration*

Menelik, one time Emperor of Abyssinia, chose a worn-out automobile in preference to a brand-new, up-to-date model, because it made more noise, and attracted more attention as he drove through his capital, Addis Ababa.

His Majesty, by the same process of reasoning, would have selected a cam operated cartoner, which makes a great deal of noise during its brief productive life, in preference to a JONES CAMLESS CARTONER which makes no noise and runs for years without overhauling.

Installation of a JONES CAMLESS CARTONER insures high grade, low cost packaging, plus peace of mind for many years.

**R. A. JONES & COMPANY, Inc.**  
P. O. BOX 485 CINCINNATI, OHIO

The Standardized Constant Motion Cartoner packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

## *As the Editor sees it..*

**A**FTER listening to a round-table discussion of the position which various and sundry soaps occupy under the new Food, Drug and Cosmetic Act, we came quite definitely to the conclusion that it will require, not one court decision, but several, before anything resembling uniformity is brought out of the present chaos of opinion. At this conference attended by a half-dozen leading legal lights of the drug, cosmetic and soap industries, and a number of other authorities on the new law, we noted that no two of them held exactly the same opinion in regard to the designation and labeling of soaps. As we listened, we were more convinced than ever of the almost hopeless confusion of views held by manufacturers, their legal advisers, and enforcement officials.

The conference in question was held following the recent annual meeting of the Association of American Soap & Glycerine Producers in New York. Many questions on soap labeling were posed, and none was answered for the simple reason that there was no agreement of opinion on any answer. One view maintained that no product which is in fact a soap, no matter how labeled or for what purpose offered, could be held to come under the law. The law specifically exempts soap, and if the product is soap, it is exempt no matter what other factor or factors are involved. A somewhat radical view, but withal completely logical, and one which might have some standing in court.

The further we go in figuring out the position of soaps under the new law, the more we feel that the courts are going to have to decide a half-dozen knotty problems,—and until they are adjudicated and appealed and all that, confusion will continue. In the meantime, the individual

manufacturer will of necessity have to let his lawyer and trade association, his common sense and conscience be his guides.



**A**WHOLE volume of meaning is contained in a few words uttered by F. A. Countway, president of the Lever Brothers Company and also president of the Association of American Soap & Glycerine Producers, in addressing the recent annual meeting of this Association. "The days are gone when our sole job was to make good soap and sell it to the public at a reasonable price." Not only is this wholly true, but one would almost believe after viewing the aura of complications which today surround the average soap manufacturer, that the making and selling of a good cake of soap at a reasonable price had become one of the more or less minor features of the soap business.

That millions of Americans are today buying the finest bar of soap at the lowest price in history is apparently not as important as we thought it was. Wide quality improvement and lowered prices of the past twenty years are evidently attainments to be glossed over quickly. More important, it seems, are how you advertise and sell your soaps, how you label, package, and price them, wages and working conditions in your plants, and a dozen and one other matters currently considered by those directing the affairs of government to comprise the public interest.

Yes,—the days are gone when supplying the public with good products at reasonable prices was the paramount consideration of any industry. Today, the average manufacturer must spend so much time keeping himself from becoming hope-



lessly entangled in the mass of red-tape which mere business existence entails, that we wonder how he ever gets a chance to give any thought to the product which he makes and sells so that he can pay his employes and his taxes.



**D**URING February, orders for soap products fell off quite sharply. At least this appears to be the consensus of opinion among a number of soapers. Soap consumers, less fearful of the future of supplies, reduced buying and turned to reduce inventories of soaps taken on during the previous four months, reports indicate. And soapers, faced with a reduction in current soap shipments, fell to studying the possibilities of the oil and fat markets which during the period showed little or nothing which might indicate their trend a few months hence.

Based on what we could find out in the market, there is nothing which would indicate that fats and oils will move skyward over the next month or two. The war in Europe and China has disjointed world oil and fat markets, clogged some with stocks previously destined for Germany and tied up others in the interior of Asia. As far as we can see, stocks are heavy in all markets except Germany, and with that exception, apparently ample to supply world needs for some time to come. Market authorities are distinctly not bullish in their current views. At the same time, present oil and fat prices are low enough so that they present a fairly safe market for the average soaper. A middle-of-the-road position on stocks would seem to be the part of wisdom.



**T**HE young man was a soap salesman in search of bigger things. He came into our office almost after the style of a football lineman making a charge, oozing energy from every pore. His handshake was a thing of power, if not of beauty. As he yanked us forward, we suspected that he was bent

on assault. But he then stated his mission, admitting also that he was one of the world's best soap salesmen, and was seeking a bigger and better job. Much relieved, we sat down and listened, meanwhile figuring out how we could avoid shaking hands with him when he left, and musing how tough it must be for his customers, especially the smaller fellows among them, who were regularly subjected to this violent greeting. Maybe he scares them into giving him orders, we thought, or maybe they phone them in so that he will not come around and shake hands.

At any rate, we wondered again if this young fellow had not been ill-advised at some time or other either by a superior or through something he had read about the dynamic, aggressive personality in selling. We wondered if his self-assurance and his energy would not have to be brought under close control in order to avoid scaring away more orders than he might secure. And we wondered if he might not come a serious cropper before the seasoning process had advanced far enough. All of which made us wonder about salesmen in general, and what really goes to make up a good salesman. We could visualize no composite picture of a successful salesman. So we just concluded that a good salesman is one who gets orders,—and went on to speculate whose arm this powerful young soap peddler would try to break next.



**I**F YOU have a soap factory for sale, not too large, not too old, and within hailing distance of a civilized community, we suggest that you let us know. For some reason or other the market for used soap factories is showing considerable activity at the moment, that is as far as the demand side of the market is concerned. Supplies of such, however, appear to be conspicuous by their absence. So if you plan to burn down that old plant and start life anew, hold your fire and see what happens. Maybe somebody will buy it.



# The Trend in OIL AND FAT REFINING

*By Harold Silman*

**I**MPROVEMENTS in recent years in methods of fat refining as applied to both vegetable and animal fats have meant a great deal to the soap maker and oil and fat user generally. The main improvement has been in the direction of higher quality and better standardization of products. The traditional methods of the fat "renderer" are rapidly being replaced by scientific treatments designed to secure a better and more economic product. Inefficient or improper refining methods may have serious repercussions at the soap kettle. The use of a "deodorized" oil in soap which begins to show signs of its origin when the soap has been on the shelf for some little time, is only one example of the importance of correct refining. Fundamentally, refining is carried out in a variety of processes which vary with the nature of the fat being treated.

In the case of vegetable oils expressed by the expeller or cage press methods, it is necessary to remove first the coarser suspended materials such as particles of dirt, seed hulls, also water, etc. This is followed by methods for the removal of the more finely divided, semi-colloidal substances which are invariably present in the crude oil. Subsequently such further treatments as de-acidification, decolorization or deodorization may have to be carried out. The earlier methods for improving the qualities and appearance of natural oils were largely chemical involving the use of strong acids and oxidizing chemicals of various kinds. The modern tendency is, however, in the direction of milder physical treatments. The avoidance of high temperatures and their attendant chemical changes

wherever possible results in an improved product and reduced losses during processing. In certain cases (such as those necessitating the removal of free fatty acids), however, chemical treatment is still necessary, but here again improved methods are in use and modifications are constantly being experimented with.

The removal of the larger particles of foreign matter present in fats such as tallow, palm oil, etc., presents little difficulty. All that is necessary is for the oil to stand in the liquid state for a short time to permit impurities settle to the bottom, and the clear oil may be decanted off or filtered through some type of filter-press. Centrifugal treatment which combines both settling and filtration is much more efficient and rapid and is being increasingly utilized. The various types of continuous two-level centrifugal separators now on the market are particularly suited for the emulsification method of purification from suspended matter, especially where much water is present. This is described later.

Most oils and fats contain a proportion of mucilaginous and protein materials of a slimy nature, and it is advisable to remove these before further processing is carried out. Centrifugal treatment only removes this type of material very imperfectly. More complete removal is carried out by agitating the oil either with activated carbon or earth such as Fuller's earth. Anything from 2 to 5 per cent of the adsorbent may be used. The material is agitated with the oil for from 1 to 4 hours at a suitable temperature depending on the nature of the fat. As low a temperature as is practicable should be used consistent

with adequate fluidity of the oil to ensure intimate contact with the adsorbent, 60° C.-70° C. being a typical temperature range. These activated materials are also among the most important for the decolorizing of fats such as lard and tallow. This is achieved to a degree, during the removal of the aluminous matter. It is, however, often preferable to use a two-stage process, removal of mucilage being first carried out with activated earths or with charcoal which has already been used once for bleaching partly refined oil.

Natural fuller's earth acts, strictly speaking, as a mechanical, inert, adsorbent for removing colloidal matter from the fat. It contains small amounts of metallic salts, primarily those of iron and aluminium. An alternative material is kieselguhr which is a form of silica and consists of the residual skeletons of diatomaceous organisms. Its structure is highly porous so that the filtration of fluids to which it has been added is not unduly difficult.

Methods have been developed for making so-called "activated" earths, the efficiency of which is considerably greater than that of the natural substances. One common method of activation consists in heating fuller's earth for several hours with a 10 per cent solution of hydrochloric acid. The increased activity of bleaching earths treated in this way is supposed to be due to the fact that the calcium and magnesium ions of the montmorillonite of which the earth consists, are replaced gradually by means of hydrogen ions. Simultaneously, the iron and aluminium oxides present are partially dissolved out by the acid which increases the porosity

of the earth and the total surface area available for adsorption. Furthermore, soluble aluminium and iron chlorides are produced. Exchange of these latter ions with the calcium and magnesium ions then takes place. The highly reactive nature of these amphoteric iron and aluminium compounds towards adsorbable compounds is well known. Their use for this purpose as mordants in the dyeing industry is a commonplace application of these properties.

Electrodialysis has also been applied to the activation of earths. The natural earth is made into a paste with water which has been acidulated with sulfuric acid and subjected to electrolysis. Under the influence of the applied potential, base interchange occurs on similar lines to the mechanism already referred to. The fundamental principles governing the activation of adsorbent earths can also be partly brought into play by adding very small amounts of sulfuric acid to the oil to be bleached; quantities of the order of one-sixth of one per cent may be used and it is claimed that an increased rate of bleaching is obtained under these conditions.

Activated carbons are likewise more effective for fat refining than the ordinary animal or wood charcoals. The most common sources of charcoal for activation are coconut fibre and beech wood sawdust. The activation process usually increases the surface available for adsorption purposes. There are several approved methods of activation for carbon, a good many of which are kept secret by manufacturers. One procedure consists in passing air and steam alternately over the charcoal, heated to a temperature of 800° C. Considerable skill is needed in controlling the air and steam flows. Other methods make use of carbon monoxide or dioxide, and other gases as the activating medium.

In some cases, such as in the bleaching of coconut oil, it is preferable to make use of a mixture of fuller's earth and activated carbon. Only a very small amount of carbon may be required, since the action of the latter is selective and often re-

moves the most highly colored constituent, the lighter coloring matters being adsorbed by the fuller's earth. In any event, a preliminary test is desirable in each case to determine the mixture and the type of treatment which is likely to be most effective.

The general procedure consists in adding the activated earth (with or without carbon) to the fat heated in a nickel-clad or tin-coated steel container. An agitator in the tank ensures intimate contact with the adsorbent. Sometimes bleaching may be carried out under a partial vacuum to reduce the tendency towards oxidation. This is especially necessary where prolonged treatment at

**What type of equipment and which bleaching and refining methods are most suitable for the various fats, oils, and fatty acids? Which metals, including the newer alloys, work out best in practical operations, — and which are unsuitable? Read what Mr. Silman has to say on this subject in the second part of his discussion next month.—  
The Editor.**

comparatively elevated temperatures may be required, as in the treatment of palm oil or the darker tallows. Coconut oil should not be kept at high temperatures for long as it is particularly prone to darkening. One advantage of vacuum treatment is that a greater degree of deodorization is brought about than under atmospheric pressure.

In the emulsification method, the oil is treated with open steam, whereby the mucilaginous matter is coagulated and settles out with the coarser particles in the water layer. An intermediate layer of emulsified oil in which some of the impurities are concentrated also forms. Centrifuging then results in the discharge of the fat and water layers at different levels through outlets provided in the casing of the machine. Where this type of centrifuge is not available, it is most practicable to add salt to the mixture before the steam is turned on. This results in the formation of a

much narrower emulsion layer after standing a few hours. A certain amount of oil is lost in this way.

Certain oils are more amenable to the sulfuric acid treatment, which removes both mucilage and also certain coloring materials. Among the fats often subjected to acid refining are skin and bone greases, linseed oil, rape oil, and the hardening oils generally.

More often, however, caustic soda refining is used as being the more effective process. The main purposes of alkali refining are—

1. The removal of free fatty acids which may have been formed from the decomposition of the natural glycerides by enzyme action, by hydrolysis, etc.
2. The removal of suspended matter and slimes and of oxidized fatty acids or resinous compounds. The latter are liable to form especially in hardening oils.
3. The removal of dark colored substances in the oil.

In modern plants, the oil is usually treated in conical-based cylindrical vessels fitted with means of agitation and steam coils. At the appropriate temperature, caustic soda lye of about 70° TW. in the calculated amount theoretically necessary to neutralize the free fatty acids present, is run in gradually and agitation started. The precise amount of caustic soda can vary, however, since if it is desired to remove coloring materials of a phenolic nature such as are present in cottonseed oil, for example, an excess of 1 to 2 per cent of caustic soda is permissible. If the agitation is carefully controlled, there should be little emulsification. When the mixture has settled, the oil is syphoned off and washed thoroughly to remove the soap stock formed. The "foots" are removed, and any intermediate layer of emulsion separately removed. If there is a tendency for a considerable stable emulsified layer to remain, the addition of salt will be of value in aiding separation. To avoid excessive refining losses which tend to be high by this method due to partial saponi-



fication of the fat in addition to neutralization of the free fatty acids, it is inadvisable to treat highly acid oils in one stage. Where the free fatty acid reaches a figure of the order of 10 per cent, two-stage alkali treatment is more satisfactory.

For fats with a lower color and mucilaginous content, milder alkalies such as lime or sodium carbonate may be used with greater economy. These alkalies are not, however, suitable for oils such as cottonseed or linseed, where a high proportion of foreign material has to be removed. Lime neutralization gives the highest yield of refined fat although the product lacks the brilliance of the caustic soda refined material. Moreover, there is a greater tendency for the formation of a stable emulsion layer. This is offset, however, by the fact that the calcium soaps which are formed are relatively insoluble and granular in nature so that they are more readily filterable. A low water content is advisable when lime is used on account of its liability to promote the formation of stable emulsions in the presence of excessive moisture.

Improper refining may have serious repercussions at the soap kettle, as the resultant soap often reveals at a later date its questionable ancestry.

THE separation of the fat both in alkali refining and in the treatment with adsorbent earths is difficult and can result in high losses. Centrifuging by high speed machines operating at up to 16,000 r.p.m. is therefore worth while. Even then, some 20 per cent of neutral oil may be included in the separated soap stock formed by the saponification of the free fatty acids. In the absence of centrifugal treatment, the proportion of neutral oil in the soap stock may run up to 70-80 per cent and represents a considerable loss. Solvent extraction of the residual fat from the soap stock might in certain instances be worth while, but it is difficult to make such a procedure pay on a commercial scale.

The residual stock can be utilized in various soaps if the fat from which it was produced is of sufficient high quality. Often, however, the residue is dark in color (especially

when fats with a high content of unsaturated acids are being treated) and is only suitable for conversion into "acid oil" by treatment with dilute sulfuric acid. Such "acid oils" contain a high proportion of neutral fats and have been utilized as raw materials for some hydrogenation processes.

Batch alkali refining is still generally practiced but an interesting type of continuous refining equipment has been proposed for liquid fats and oils whereby the mixture of oil and caustic soda is fed continuously through a tubular heater, where it is raised to a temperature of 50° C. The proportions of oil and soda are automatically controlled and maintained while a small pre-mixing chamber insures thorough uniformity before the resulting emulsion enters the treatment tube. Finally the fat is washed with warm water by a continuous process and passes through a high speed centrifuge where the neutral oil is separated from the soap stock. It is claimed that considerable reduction in the fat losses normally encountered

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# The Soap Executive Speaks...

**S**ELDOM do the leading executives of the American soap industry express themselves publicly on the vital problems of the day affecting the industry. So when six well-known figures in the field of soap manufacture outlined their views in addresses before the recent annual meeting of the Association of American Soap & Glycerine Producers, it was indeed an unusual occasion. The future of the industry, its attitude toward the public and the Government, its views on excise taxes, the future of the raw material market and of soap consumption, and what the industry has accomplished as a unit through its trade association,—all these were discussed. The speakers included Francis A. Countway, president of Lever Brothers Co., and once again re-elected president of the Association; G. A. Eastwood, president of Armour & Co.; R. R. Deupree, president of the Procter & Gamble Co.; and E. H. Little, president of the Colgate-Palmolive-Peet Co. N. N. Dalton, the Association's technical consultant and former Peet executive, and Roscoe C. Edlund, manager of the Association, were also speakers at the meeting.

In his annual address, President Countway said in part: "The days are gone when our sole job was to make good soap and sell it to the public at a reasonable price. Today we must convince the public, or more specifically the Government officials the public puts into power, that the conduct of our business is at every step in line with what is currently conceived to be the public interest. This applies to the wages and working conditions of our employees, the prices and terms of sale for our products, the methods we use in our advertising, and the way we administer our financial affairs.

"This is the basic reason for the existence of the Association of

American Soap & Glycerine Producers. It permits all of us in the soap business to speak with a common voice on the problems common to us all. The real job of the Association is one of education. It can point out to legislators and officials instances where proposed laws and regulations are unworkable or unduly burdensome to the soap industry and consumers of its products. It can likewise interpret to us the conditions under which we, as good citizens, must operate so that we can adapt ourselves to them as efficiently as possible.

"We should not oppose, and we do not oppose, any measures which are for the greatest good of the greatest number, even if they place burdens upon us. But it is our system today to oppose measures which hurt the soap business without a corresponding benefit to the general public.

"Our Association has been very busy during the past year in dealing with problems of just this sort. The most spectacular, single job was that of opposing, in close co-operation with the Bureau of Raw Materials for the Vegetable Oils & Fats Industry, a proposal to raise the excise tax on imported oils from 3c to 5c per pound. Had this move succeeded, it would have added approximately \$7,000,000 to the soap industry's annual costs, without helping the agricultural interests who were actively pushing it.

"This matter took us far into the realms of political and diplomatic affairs, with the State, Agricultural, and War Departments and President Roosevelt all evincing interest. It made clear to us the necessity of teaching the facts of life in the soap business not only to public officials, but also to politically powerful groups who may mistakenly seek legislation which will harm us while not helping them. To help handle

this job, the Association Directors have set up a Fats and Oils Educational Committee and have strengthened the staff of the Association.

## Eastwood on Fats and Oils

**S**PEAKING on the relation of the packing industry to soap manufacture, and on the fat and lard situation, Mr. Eastwood, had the following to say:

"The present situation in the fat and oil field as it is affected today by the lard situation is of deep interest to the soap industry. After all, there is a close relationship between the packers and soap manufacturers especially as it applies to the subject of raw materials. Packers, as you of course know, are the medium through which our agricultural population markets its principal cash crop, livestock. More than a quarter of the annual farm income is represented by the cattle, sheep and hogs which the farmers produce. Thus the meat business and its successful operation is closely linked with the welfare of agriculture. There is some reason for us in the meat trade to feel that no business is more important to national welfare than is ours. The nation's largest crops are grass and hay. Other crops like wheat and cotton may get the headlines but from a dollars and cents standpoint, grass and hay and allied crops usually described as fodder, are really the most valuable. Their value rests in the fact that livestock can convert them into meat and by-products. If the packers in turn were not able to convert the meat and by-products into cash and return to the farmers a very substantial portion of this cash, our whole system of agriculture would have to undergo a marked change.

"The packers work with commendable efficiency in helping the farmer to produce wealth from the soil, at least packer efficiency is com-



Francis A. Countway, G. A. Eastwood, E. H. Little, R. R. Deupree, N. N. Dalton and R. C. Edlund express their views on the soap industry, excise taxes, raw materials, et. al.

mendable from the viewpoint of the farmer and the consumer, for there is always a cash market for the farmer, and always an available and well distributed supply of meat for the consumer. We have not shown any marked efficiency in producing earnings out of our operations, and I suspect that any of you gentlemen would be greatly disappointed if at the end of your fiscal year your earnings per pound of product were no better than those which the packing industry has been able to show. But I shall not go into the subject of profits because it is a sorry one and I am hopeful that we can make a better showing as time goes on.

"Packing houses are the source of a substantial part of the raw material of the soap industry. When cattle and swine are slaughtered, fats and oils constitute an important by-product. It was this fact that led Armour and Company into the soap business back before the turn of the century. Several other packers are in the soap business, but your interest in the meat industry does not grow out of our competition with you, but rather out of our ability to supply you with raw materials. Of course there are acceptable alternative fats and oils from the vegetable kingdom but for general purposes none is better than animal fats and oils. Consequently I think you will be interested in a brief summary of the livestock outlook and of the prospects for an adequate supply of animal fats and oils.

"About the middle of the last decade livestock supplies fell to a very low point as a result of several widespread droughts and the government livestock control program which resulted in the premature slaughter of a great many cattle and pigs. During the last five years abundant crops have enabled the farmers to restore herds of cattle and droves of hogs to normal numbers. Cattle, in fact, have been on an approximately normal basis as far as numbers are concerned for two or three years. Last year about forty million hogs were slaughtered under government inspection and the prospects are that this year will see forty-seven to forty-eight million hogs slaughtered under government inspection. As a general rule about two-thirds of the total supply of hogs are included in these government inspection figures. That means there will be twenty to twenty-five million hogs slaughtered on the farms and in non-inspected packing houses this year in addition to those slaughtered under federal inspection. All these hogs produce fat. Most of it goes into the production of lard and every one who makes soap or specialty products of which fat is the base is interested in the lard situation.

"In reviewing the lard situation, I believe you will be interested to know that U. S. lard stocks on January 1, 1940 were reported as 161 million pounds, said to be a record for that time of the year. The accumulations in January at western slaughter-

ing plants reflect a U. S. supply of something in excess of 210 million pounds as of February 1.

"Hog slaughter under federal inspection for the period from 1925 to 1934 ranged from 43 to 48 million head per year but with the government production control program and the severe droughts, the federally inspected slaughter dropped during the years 1935 to 1938 from a range of 26 to 36 million.

"The lard production naturally followed the slaughter and during this period of 1935 to 1938, lard produced from federally inspected slaughter ranged from 662 million to a billion pounds. With increased hog slaughter in 1939 and 1940 lard production has again risen to the old level prior to 1934, or approximately 1.6 billion to 1.7 billion for the year.

"In the period previously surveyed, exports of lard averaged in excess of 600 million pounds a year, and this volume was reduced to less than 100 million pounds in 1935, so that during the periods of low production following the government planning and droughts, domestic distribution took care of production. But with the increased hog production and increased slaughter of 1939 and thus far in 1940, supplies are increasing more rapidly because of the absence of the previous export demand, irrespective of a full normal domestic consumption.

"Following the laws of supply and demand, the unusually large cur-

rent supplies have depressed prices on lard, which have had a sympathetic response from other fats and oils. During the period of increased production, beginning in 1938 up to date, lard has taken a declining trend of nearly 40 per cent, with prices in January 1938 a little in excess of 8 cents for loose lard, and in January 1940 a little above 5 cents for loose lard. But since November 1939 the open interests on the Board of Trade in respect to future contracts has steadily risen under present price levels from 52 million pounds to 128 million pounds, or approximately 62 per cent of the estimated visible supply. This may be considered significant because it seems to indicate that the buying interests are satisfied to own lard at levels which have obtained, indicating the belief that there is a potential demand for it and expectation of higher levels of value.

"During this period of time, the corn hog ratio has declined from a very favorable relation of some 16 or 17 to 1 down to an unfavorable relation of 9 to 1, which if continued might properly indicate that the peak of the hog production for the moment has been reached, and 1941 may not develop as many hogs as 1940. Domestic consumption of pure lard has risen, obviously with a reduction in price, and is now in line with the years 1932 and 1933, approximately a billion pounds per year.

"Considerable unrest has developed in the hog raising areas growing out of the severe decline in lard prices which may conceivably bring about some changes in the procedure of lard refiners in respect to the type of product produced in the future. Thus far, there has been no outstanding demand abroad growing out of war activities but it is popularly believed that substantial quantities of lard may be urgently needed in the near future if hostilities continue, and with the possibility of interruption of imported fats normally purchased and consumed in this country, there may be a very substantial substitution of lard for some of these fats to a point of using up the current surplus and therefore changing current values.

"Obviously the men connected with the production and distribution of lard have an optimistic viewpoint. That may be influenced in some degree by the suspicion that the open interests in the future market might possibly represent foreign buyers. But whether this is so or not, it seems evident to me that the industries you men represent and the packing industry will have a closer relationship for the next few years than has been true for some time past.

"These are just a few brief comments which I thought might interest you. I do desire to say, however, that in my opinion American business men have not lost their heads by reason of the war and that the general outlook for all our business is better for that reason. Those of us who went through the last great struggle will remember how we went wild on the subject of inventories. When the war ended inventory losses quickly wiped out whatever profits resulted from war business. I do not believe we are going to repeat that experience this time. Thus far all the businesses with which I am familiar have exercised rigid inventory control and the men in responsible positions seem determined to avoid any such collapse as occurred in 1919 and 1920. All of this augurs well for the future."

#### Little Outlines Assn. Work

**M**R. LITTLE in a brief talk outlined his impressions of the work of the association as he has watched it for the past twenty months since he became president of Colgate-Palmolive-Peet Company and a director of the Association. He reviewed the association's work in the interests of repeal of the 5 per cent federal excise tax on toilet soap and its continued opposition to retention or possible increase in rate in the 3-cent processing tax on Philippine coconut oil. He noted that the Federal Food, Drug and Cosmetic Act and various state acts exempt soap, that no state now levies a discriminatory tax against soap, and that no trade mark registration laws affecting soap have been

passed,—against all which measures the association office has directed firm and effective protests. No state has passed a law limiting the hours which an outside salesman can work, said Mr. Little, and no state has given final approval to any measure requiring net weight to be shown on bars of soap. In each instance the association has effectively represented its members' interests.

#### Deupree on the New Trend

**M**R. DEUPREE gave some of his impressions of the "New Deal," official Washington, and the changes in the social and economic order that have taken place in the past ten years. Some of these views, incidentally were at a rather wide variance with the popular conception of the average business man's attitude toward Washington. Mr. Deupree said that out of the experience of the past seven or eight years business men should have learned something that ought to make for a better period ahead. The experience should have, for one thing, said Mr. Deupree, given them a better sense of management's obligation in conducting its business. There was need for lots of correction in various bad business procedures, he said, and there still is need for further correction. Business is not going back to the old procedures, said Mr. Deupree, because it has learned some sense.

The point was stressed that business men should not be fault finding and obstinately opposed to every new measure that comes out of Washington. Instead of fighting every new proposal of the administration, he recommended trying to anticipate some of the criticism that comes through bad practices. He emphasized that officials of the various bureaus have jobs to do based on the laws and for the most part are fair minded men trying to do an equitable job based on existing laws.

#### Dalton on Soap Consumption

**M**R. DALTON in discussing the substantial increase in soap sales in 1939, shown by the Association's Soap Sales Census,

suggested that perhaps the gains registered in the third and fourth quarters of 1939 are nothing more than a result of war excitement. It is doubtful, he said, that the net result will be to show any important long range increase in tonnage over ten years ago. As a matter of fact the industry may be pressed to hold its present tonnage over the next ten years. Just as the industry gets geared up to sell more soap, women wear less clothing or new detergents come in to split the market. In 1939, 1,400,000 washing machines were sold but this does not necessarily contribute to increased soap consumption as alkaline detergents have taken much of this market away from soap.

There has been an increase of 400 per cent in municipal water softening plants in recent years, he reported. Every one is sold on the basis that it will save soap, yet in many cases it costs the taxpayer more than the soap would. Reference was also made to the increased number of shower installations, which necessarily use much less soap than the tub baths.

Turning to the oil and fat markets, he reminded his listeners that the situation is currently much different than in the early days of the world war. There is a surplus of fats today which perhaps explains why lard which was priced in the neighborhood of 9 to 10 cents during the early days of the last war, is readily obtainable at 5 to 6 cents today. Maladjustment of supply and demand is the most serious factor in the current oil and fat market, he indicated. The soy bean crop backs up in Manchuria; palm oil backs up in the Dutch East Indies; there is an oversupply of American animal fats; and yet soap factories in the war countries find it impossible to get oils.

#### Edlund On Industry Problems

**D**ISCUSSING other problems of the soap industry with which the Association has dealt, Mr. Edlund said in part:

"Thirteen years ago the Association started out on the principle that what we needed to do was to

increase the total consumption of soap in the United States. We had the Cleanliness Institute, which was a very well conducted educational bureau and which did a grand job on behalf of the soap manufacturing industry. We have never lost our interest in that work, and we still feel that it is an important function of the Association representing the soap industry to sell the idea of more hand-washing, more bathing, more washing of clothes, better dish-washing, and higher standards of cleanliness in every respect. We do not now make the expenditures we did in the old days. Possibly we may never go back to that scale of activity. I do hope, however, that the time will come when from a public relations and business angle the industry through its Association will make substantial expenditures on cleanliness education.

"We have been most successful in the use of cleanliness publicity materials by newspapers, magazines, and radio stations. If I gave you the total figures of circulation of this material, you would hardly believe it possible. Newspapers and newspaper syndicates like the materials we supply and print and reprint them to the extent of tens and hundreds of millions. Cleanliness educational features thus reach a circulation of 40,000,000 readers each month. Cleanliness Facts talks for household hours are used by 300 radio broadcasting stations that have requested them and receive them from us regularly each month.

"We are continuing our effort to keep soap free from special discriminatory taxation by any state. Last year we had to deal with 13 tax bills in 9 states to keep the record clear. We do not think it proper for any public authority to tax soap as though it were a luxury and I think now we have fairly well sold the idea to the legislatures.

"We have successfully continued our effort to convince the states that in protecting public health, regulation of soap is wholly unnecessary. We have taken the position in every instance that in state bills, as in the

Federal Act, soap should be excepted from regulations governing cosmetics.

"Referring to current problems before the industry, one which is requiring immediate attention is that of convincing weights and measures officials in New York State that it would not be in public interest to require the marking on bars of soap of the net weight at the time the soap reaches the consumer. Every soap maker knows that laundry soap may have from 25 per cent to 34 per cent water in it, or more, when the bar is cut. To require that the delivered weight to the consumer shall in every instance be the marked weight at the time of cutting is a practical impossibility. We hope to convince the officials of this and are filing a brief which any member of the soap industry is welcome to have. Already we have had several conferences with the officials at Albany, and later expect to have a general conference at which we will have chemists, salesmen, and executives from soap companies. We hope any member of the industry who can add new ideas for the brief or who can contribute any views at the hearing will participate.

"Another problem which is having immediate attention is the proper interpretation of what the word 'soap' means in the exception from regulation as a cosmetic under the Federal Food, Drug and Cosmetic Act. We thought everyone knew what soap was, but officials of the Food and Drug Administration seem to feel the exception must be narrowly construed. They take the position that when soap is sold as shaving cream it is no longer soap within the meaning of the Act. Further, when soap is sold as shampoo, it is no longer soap under the Act. Since they claim they are not soap they want to regulate them as cosmetics. We do not agree with that position. To soap manufacturers the importance of this lies not simply in the matter of food and drug regulation, but in the establishment of a precedent against these products which may subject them to many forms of taxation and altogether unnecessary regulation."



# JANITOR SUPPLIES

## . . . for Dairy Plants

(PART III)

**C**LEANING materials and sanitation products, and their use, are as essential a part of production in the foodstuffs industries as is the actual preparation and packing of the foods themselves. This, as has been pointed out in previous articles, is true whether the products be canned goods, baked goods, meats, or what not. If any type of foodstuff production were singled out, however, as one in which cleanliness and sanitation is more essential than in the others, it would probably be the dairy and dairy products industry, producing milk, ice cream, cheese, and the like. For here, the perishability of the products is perhaps greatest of all foods. From the time the milk leaves the cow until it is consumed in one form or another, the problems of sanitation are myriad.

On the dairy farm, a healthy herd of milch cows ranks first in importance. This requires clean barns, dust proof and dirt free walls and ceilings, clean bedding, changed daily, barns sprayed often with insecticide, the daily removal of manure, scrubbing up the areas where the manure has been, and spraying the manure itself with insecticides. A growing practice is the frequent use of live stock sprays on the cattle to protect them from flies, and the use of disinfectants for washing cattle udders before milking. The gutters in back of each stall in the dairy barn should be cleaned several times daily, sprinkled with chloride of lime or trisodium phosphate, and hosed out. This helps

to keep the barn free from odors and flies, and assists in killing disease germs that may be present on the floors and in the gutters.

To protect the quality of the milk produced, rigid sanitary measures must be observed in the cleaning and sterilization of all milking utensils and equipment,—pails, delivery cans, cooling tanks, pasteurizers, bottles, etc.,—by the use of detergents and disinfectants. The method of cleaning utensils and milking machines followed on most dairy farms, consists of first rinsing all equipment with cold water immediately after use, then washing in an alkali solution (usually trisodium phosphate) and rinsing and scalding with water at or as near the boiling point as possible. The equipment is then disinfected, usually by washing in a chlorine solution.

After milk leaves the dairy farms and is transported to large bottling and milk product manufacturing plants, the sanitation and cleanliness problems increase due to the greater handling necessary and the larger volume of milk concentrated at one point. At the present time, most equipment in these fluid milk bottling plants, ice cream plants and cheese plants, is made of stainless steel or other non-corrosive metal. Much of this equipment, such as storage vats and pasteurizers, is glass lined. Choice of cleaning materials then, is not as limited as was the case a comparatively short time ago, when tinned copper predominated in the equipment being used. Particular care then had to be taken so that the tin was not

affected by the alkali used in the cleaning operation.

For the bottling of milk, the principal equipment consists of pasteurizers, coolers, bottling machines, and bottle washing machines. The relative ability of the alkali detergents to dissolve such substances as milk protein, fat, etc., on this equipment depends largely upon the pH of the solutions and the proportion of the  $\text{Na}_2\text{O}$  which will react. From the nature of the alkalies, it is obvious that caustic soda solutions have the highest pH in equivalent concentration, with the pH of solutions of metasilicate, trisodium phosphate and soda ash decreasing in the order named.

When hard waters are used for cleaning dairy equipment, it has been found that the use of carbonate detergents tends to promote the formation of milk stone. The calcium carbonate formed in hard water is a relatively heavy precipitate which settles out on the equipment to form a hard, high-ash milk stone. When trisodium phosphate or sodium metasilicate are used in hard water, the precipitate formed is flocculent, which does not settle out but is carried away with the wash liquid.

Milk stone varies considerably in composition. If the deposit consists mainly of milk solids, the application of an alkaline detergent solution at 120° to 130° F. usually suffices for its efficient removal. If the deposit is the result of heat coagulation of milk protein and minerals in combination with precipitated salts from the washing liquid, treatment with alkaline de-



tergents may not be satisfactory. Milk stone removers with a phosphoric acid or tartaric acid base may then have to be used. Although milk stone can be removed from equipment, prevention of its formation is preferable.

Most bottling plants use soaker type bottle washers in which the bottles are completely immersed, traveling on a moving belt from one compartment of the machine to another. As a rule, the washing solution employed in these bottle washers consists of a straight caustic soda solution with a sodium hydroxide concentration of at least two per cent. In some cases, however, a small percentage of trisodium phosphate or sodium metasilicate is added to the base solution. The advantage of the latter is that a cleaner, more brilliant bottle results. Metasilicate is not used alone, however, as its lack of lubricating qualities prevents the smooth running of the washing machine. According to several sources, there are some mod-

ified silicates now on the market which have overcome this difficulty. Several bottling plants report adding a little trisodium phosphate to the rinse tank only, in order to obtain a brighter bottle.

Bottle washing machines, as a rule, are emptied daily; that is, the first compartment where preliminary washing takes place, and the rinse tank. Other compartments are emptied every thirty days or so. However, enough caustic soda is added frequently to keep the causticity up to two per cent.

The cleaning of pasteurizers in the milk bottling plant is accomplished by using trisodium phosphate alone or in mixture with such alkalies as soda ash, caustic soda, sodium metasilicate or, in some cases, with soap powder. One of the larger bottling plants in the New York City metropolitan area, pasteurizing almost

200,000 quarts of milk daily, uses a cleaning compound of 70 per cent trisodium phosphate and 30 per cent sodium carbonate. This same cleaner, incidentally, is used on all other equipment in the plant, with the exception of the bottle washing machine, where a solution of 90 per cent caustic soda and 10 per cent trisodium phosphate is used. Another large bottling unit in the same area uses a compound of sodium carbonate, trisodium phosphate and soap powder on its pasteurizers, the percentage of each ingredient being modified according to the condition of the water. In the smaller plants, however, where milking, pasteurizing, bottling, etc., are all done under the same roof, the workers put what they call a sufficient quantity of straight trisodium phosphate into the pasteurizer, add water and *swish* it around. One method seems to be as efficient as another.

In general, the same type cleaner as used on pasteurizers, is also used on most other equipment in the

Automatic bottle washing equipment in a modern milk plant.



bottling plant. A somewhat stronger cleaning solution, though, is used for washing the 40-quart cans by which medium a large quantity of milk is delivered to bottling plants. By far the greatest amount of milk, however, comes into the milk processing plant by tank cars and tank trucks today. These tanks, when emptied, are either scrubbed with a cleaning solution and then sterilized, or rinsed and then cleaned with a hypochlorite solution. In the second method, cleaning and sterilization is combined into one operation, and is usually done by flushing with a solution of 500 parts per million available chlorine. When sterilizing after use of a cleaning compound, the available chlorine is usually around 250 parts per million.

Floors and walls in bottling plants are hosed with hot water and scrubbed with varying amounts of caustic soda, trisodium phosphate or soda ash solutions daily. It is for this reason, perhaps, that the use of disinfectants in a plant of this sort is virtually unknown. The larger companies, for the most part, have exterminators under contract who take care of the insect problem, which seems to be small in milk bottling plants. Pyrethrum powders and liquid sprays are used by those who do their own exterminating work, because, as one dairyman said, "they are safe materials to work with."

**C**LEANING operations in ice cream plants, while similar to those in milk bottling plants, are more difficult because they deal with heavier materials such as condensed milk, syrups, flavors, etc., and a more varied type of equipment. In addition to the usual milk bottling equipment of pasteurizer and cooler, the ice cream plant commonly employs such equipment as homogenizers, freezers, holding tanks, and ice cream molds. Two strikingly rather similar bits of information were gathered from visits to both ice cream and bottling plants by a representative of SOAP. First, that both employ a regular crew that does nothing but cleaning, being trained for that par-

ticular work, and second, that all equipment in both industries must be built so it can be quickly and easily dismantled. Pipe lines are usually made of stainless steel and are so arranged in collars, that they may be taken apart daily and rinsed, cleaned and sterilized. Most plants contain steel troughs in which pipes are placed to be cleaned. They are scrubbed with a cleaning compound which, as a rule, contains a small amount of mild abrasive. One large ice cream plant uses a paste made of sodium hexametaphosphate, soap powder and gypsum for this procedure. Wide use is made of brushes with wire bristles for cleaning the inside of pipes. These are available in different size diameters to fit different size pipes.

In general, trisodium phosphate is the detergent finding widest use in the ice cream plant, being used on practically all equipment. There are several objections to its use however; workmen complain of its effect on their hands, and equipment washed with the material sometimes takes on a powdery look. The latter is no doubt a result of the precipitation of calcium salts which takes place when hard water is used. This can be avoided to a large extent by keeping the equipment at the right temperature when cleaning. Too much heat causes fast drying and the calcium salts dry on the metal before the rinse water can remove them. Rinsing, incidentally, can be very effective if performed at the right time and under suitable conditions. As the chemist in one ice cream plant explained, rinsing of equipment should be done promptly, before accumulated matter is able to dry. This will remove the bulk of organic matter and simplify actual cleaning operations.

Many plants in the milk and milk products industry are investigating the use of a sodium metahexaphosphate compound, and report satisfactory results. The material is more expensive than the usual alkalis employed, but this newer detergent, it is reported, is effective in removing butter fat, does not harm the hands, and holds in suspension the salts formed

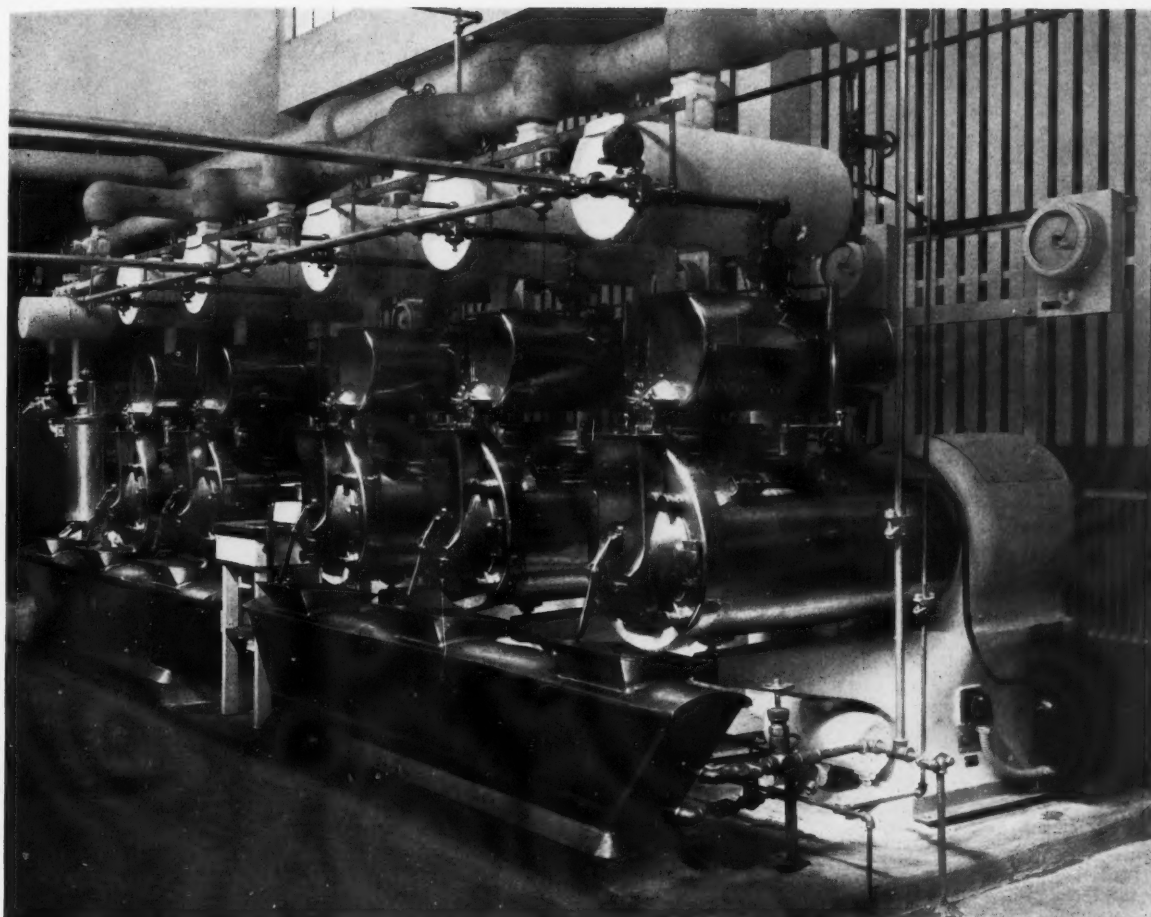
in hard water, so they do not deposit upon equipment.

Coolers in ice cream plants are similar to those in milk bottling plants, usually being of two types. In one, the milk flows over the outside of refrigerating coils, while the other is a closed system. In the first type, cleaning is accomplished by much scrubbing and the use of an alkaline detergent, usually trisodium phosphate. In the closed system, however, a cleaning solution is circulated through the cooler for a half-hour or so and then pushed out with cold water. The cooler should not be allowed to dry until the temperature is well down for drying at high temperature would have the tendency to form milk stone within the system.

A cleaning problem peculiar to the ice cream industry is that of cleaning molds or forms in which various ice cream specialties are frozen. The molded products are frozen by passing the forms through a brine bath for about 30 minutes. When these forms are washed, the adhering brine from the brine bath dilutes the washing solution. It is essential in this operation, therefore, that the brine be thoroughly rinsed off the mold before entering the washing machine where the actual cleaning takes place.

In the larger ice cream and milk bottling plants, the laboratory maintains strict control over all production work. After cleaning, rinse water is tested and a bacteria count made. When the count is too high, the laboratory knows that the cleaning operation or sterilization is not up to what it should be.

Sterilization of all equipment and apparatus in milk and milk product plants is usually accomplished by application of a chlorine solution or spray. When the sterilization solution is applied by spraying, 250 parts available chlorine by weight per million parts of water are used, but when the sterilization solution is pumped or allowed to flow over the surfaces to be sterilized, available chlorine consists of about 100 parts per million. Some plants dissolve chlorine gas in water to make up their solution, while most



Maintenance of sanitation is made easier in the modern ice cream plant by use of Monel and stainless steel equipment.

plants make use of an ordinary laundry bleach.

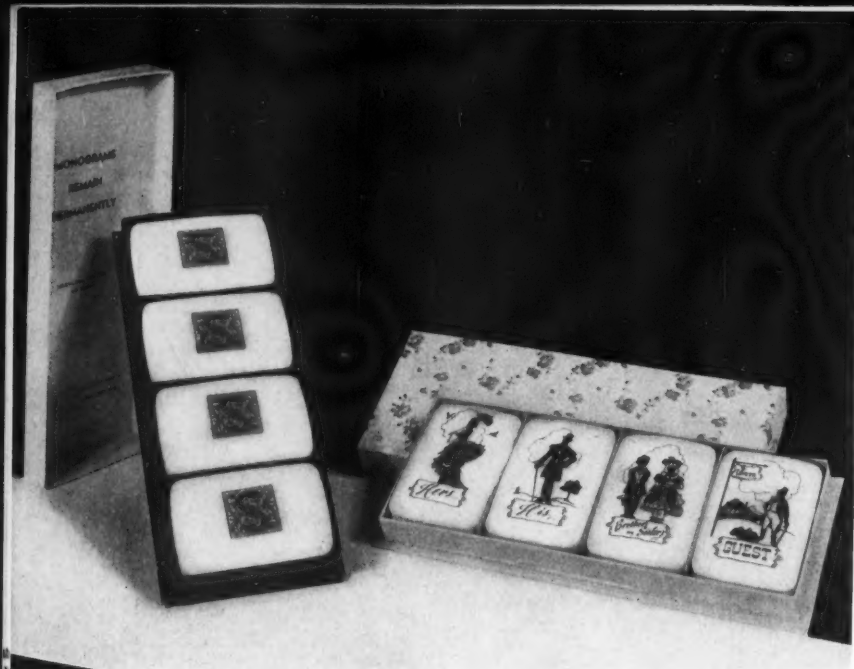
Materials and methods of cleaning used in cheese and butter plants follow very closely those used in milk bottling and ice cream plants. Cleaning in these plants is essentially the removal of accumulated butter fat, and various alkalies are found to be the most effective for that job. Some cheese plants do not pasteurize, so have less of a cleaning problem, although equipment for curdling, pressing, etc., is cleaned daily. Perhaps the principal sanitation problem in a plant of this sort is the removal of insects, particularly roaches.

One dairyman, questioned by a representative of *Soap*, gave the following reason for the infestation of cheese plants: Plants of this type, he said, are almost all located in the

farming area away from the city, or at best, in small farming towns. Buildings housing these units are usually old and are at a warm temperature, with plenty of space between floors and walls. The result is an ideal breeding place for roaches. Cheese plants, because they are away from the city and populated areas, do not, as a rule, have the benefit of professional exterminators and must depend upon their own limited knowledge to rid the plants of insects. This is substantiated by the fact that those cheese plants which are housed in modern buildings and have access to professional exterminators are, for the most part, little affected by the insect problem.

General Drug Co., New York, has announced that they are sole sales representatives for a new soapless detergent material known as Product G. L. 4C. The material is a condensation product of fatty acid and protein derivatives, containing no free fatty acids or sulfonated bodies, and is chemically identical with the *Lamepons*. General Drug will handle the sale of the product to manufacturers of soapless shampoos, dentifrices, toilet soaps, cosmetics, detergent specialties and insecticides. The *Lamepons* are manufactured in the U. S. by the Chemical Marketing Co., New York, which company is handling their sale to the textile industry. Further information on Product G. L. 4C may be obtained from General Drug Co., 170 Varick St., New York.

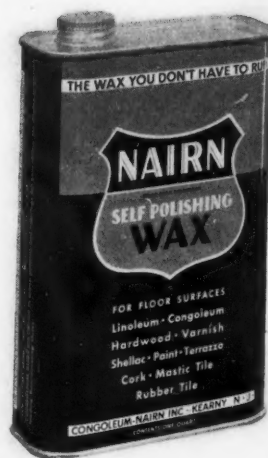




"Silhouette" soap with lasting silhouettes and "Monogram" soap with lasting monograms are being marketed by Illustrated Soap, Inc., New York. The monogrammed soap is made in eighteen of the most commonly used letters of the alphabet.

Congoleum-Nairn, Inc., Kearny, N. J., has developed a new self-polishing wax, marketed under the tradename "Nairn." The lithographed container is in two colors, black on the lower section and red on the upper part.

## New Products and



Moon-Shine Chemical Co., Pittsburgh, has adopted a duplex shipping-display box, to promote its premium offer of a free dish towel in every package of "Sof-en-it." Box by Hinde & Dauch Paper Co., Sandusky.





## Packages



Bath and hand soap, perfumed with an English Fern odor, is a new offering of London House, Ltd., New York. The package was designed by Guy H. Nicholson and made by Shoup-Owens, Inc., Hoboken, New Jersey.

A new container has recently been adopted for "Aqua Wax," a product of Finnell System, Inc., Elkhart, Ind. The color scheme is red, white and blue. Wilson & Bennett Mfg. Co., Chicago, Ill., is the manufacturer.

Holding a prominent place in the new line of "Seaforth" toiletries, recently introduced by Alfred D. McKelvy Co., Minneapolis, are two soap products,—an "Old Scotch" shaving mug and a box of "Men's" soap.



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# News.....

## New Soap Company

Coventry Soap Co., Buffalo, has recently been organized, and, at present, is making milled toilet soaps. The new company, headed by Mr. Stahl, has rented space in the Larkin soap factory, and will concentrate on the manufacture of unfilled toilet soaps packed under private labels. Mr. Feldman, formerly with Allen B. Wrisley Co., Chicago, is associated with Mr. Stahl in a selling capacity.

## Austrian Soaper in U. S.

Paul S. Mayer, former director of manufacturing for the well-known Austrian soap firm of M. E. Mayer, Vienna, Austria, which manufactures and sells the "Mem" line of toilet soaps and cosmetics throughout Europe, arrived in the United States late in February to take up permanent residence and enter the fine toilet soap business. He anticipates purchasing part interest in a small American company to produce the "Mem" line which has been sold for some years by American department and novelty stores. During the past year, Mr. Mayer has been living in London. He is at present located at the Hotel Bedford, New York.

## Fels-Naptha Gives Bonus

Samuel S. Fels, president, Fels-Naptha Soap Co., Philadelphia, recently announced distribution of the thirty-ninth annual bonus paid to employees since the company started sharing profits in 1901. The current bonuses are reported to average 20 per cent of the individual's annual salary.

## Anthony Huber Dies

Anthony Huber, founder and president of Huber Machine Co., manufacturer of soap machinery, Brooklyn, died at his home in Brooklyn on February 26. He was 80 years old

and had been secretary of the Bay Ridge Chamber of Commerce for the past twenty years, remaining active in that association and his business until



Anthony Huber

he became ill several months prior to his death. Mr. Huber was born in Baltimore and had lived in Brooklyn for about forty-seven years. He is survived by his wife, a daughter and four sons, Adolphus, Walter, Harold and Paul. The business will be continued by Adolphus Huber.

## White King Perfume Plan

White King Soap Co., Los Angeles, is offering "personalized" perfumes to customers in a new plan to stimulate consumer demand for "White King" granulated soap. Coupons are distributed through retail outlets, to be filled in and returned to the company with ten cents and a "White King" granulated soap box top. Half-dram vials of perfume are then sent to senders of the coupons.

## Segars Represents P&G

W. E. Segars has recently been appointed to represent the Procter & Gamble Co., Cincinnati, in the Rockingham, N. C., territory. He replaces Joseph Maroney.

## Sample Bath Size "Palmolive"

Colgate - Palmolive - Peet Co., Jersey City, N. J., is continuing its sampling tests in various markets for a bath-size edition of "Palmolive" soap. The campaign was launched almost a year ago, using local newspapers in parts of New England, Ohio and Pennsylvania. Distribution has been scattered and, as yet, no definite conclusions have been drawn as to the popularity of the new size soap, which weighs 5½ ounces and sells for 10 cents or 3 for 25 cents. It is reported that Procter & Gamble Co., Cincinnati, is similarly testing a large size cake of "Camay" in Toledo.

## W. F. Reis, a "Supersniffer"

W. F. Reis, chief perfumer for van Ameringen-Haebler, Inc., New York, was pictured in the April issue (out Feb. 28) of *The American Magazine* in its "Interesting People" section comparing the odors of lily-of-the-valley flowers and a perfume on a testing strip. The full-page portrait of the well-known perfumer designated him as a "supersniffer," and indicated that he had one of the keenest noses in America. Prior to his association with van Ameringen-Haebler, Mr. Reis was for many years a perfumer with Lever Brothers Co.

## Soap Sales Up In 1939

Sales of soaps in the United States during 1939 were greater than in any year since January 1, 1935, when the soap sales census of the Association of American Soap & Glycerine Producers first began, according to latest figures released by that association. Sales of soap during 1939 totaled 2,759,481,088 pounds valued at \$267,280,275. In pounds this was 6.9 per cent better than the 1938 total which in turn was 6.9 per cent better than 1937. In dollars, the 1939 sales were 5.1 per cent



better than in 1938, which in turn was 3.3 per cent better than 1937. The fourth quarter of 1939 was also the best fourth quarter in the past five years, soap sales totaling 608,261,139 pounds valued at \$58,427,827 for that period. In pounds, this was 6.6 per cent better than the fourth quarter of 1938, which in turn was 16.7 per cent better than in 1937. In dollars, the fourth quarter of 1939 was 2.9 per cent better than the fourth quarter of 1938, which in turn was 9.1 per cent better than in 1937.

#### **P & G Dallas Soap Plant**

Procter & Gamble Co., Cincinnati, has announced that it will erect a \$1,000,000 soap plant in Dallas, Tex., on which construction will be started this year. It will be located on a 50-acre tract of land on South Lamar Street, which is also the location of an oil and shortening plant built by the company in 1921. The new soap plant, which will serve all of the Southwestern states, is expected to employ over 200 workers and is virtually a duplicate of a Procter & Gamble plant nearing completion at Quincy, Mass. It will be the fifteenth plant which the company has built or acquired in the United States and Canada since the firm began business in 1837.

#### **John Bader Dies**

John Bader, part owner and manager, Zillessen & Bader, Inc., textile soaps, Riverdale, N. J., ended his life last month by breathing fumes of hydrocyanic acid, which he had made in the company's laboratory. Mr. Bader, who was 39, had been associated with the concern for the past twenty years. He is survived by his wife.

#### **C-P-P Aids Cotton Drive**

Colgate - Palmolive - Peet Co., Jersey City, has been added to the list of industrial concerns cooperating in the drive to increase consumption of cotton goods, according to an announcement from the Cotton Consumption Council of New Orleans. Object of the movement is to aid southern cotton farmers by finding

#### **Cleveland Soap Preferences**

Consumer preferences in the consumption of laundry soaps, toilet soaps, scouring powders, shaving soap and water softeners are shown in the tabulated results of the recent seventh Cleveland home inventory, a survey conducted by the *Cleveland Press*. "Fels Naptha" claimed the largest popularity in the field of laundry bar soap, being preferred by 44.5 per cent of those interviewed. "P. & G." laundry bar soap placed second in this classification having a consumer preference of 23.7 per cent, while "Ivory" placed third with a percentage of 13.2. In the Cleveland toilet cake soap market, "Ivory" was first choice with 21.3 per cent of the market. "Lifebuoy" was second with 14.4 per cent while "Palmolive," "Sweetheart," "Camay" and "Lux" were all grouped closely together as far as popularity goes, ranging in preference from 13.3 to 13.0 per cent.

In the market for packaged soaps, "Rinso" showed the way with a popularity of 23.2 per cent, but was closely followed by "Oxydol"

new outlets for their surplus raw cotton. In a letter made public by the Council, Colgate-Palmolive-Peet Co. said: "We will be very happy to cooperate in the effort to increase consumption of cotton and we will write our fifty premium stores to make a special display of cotton materials and do what they can to promote this line of goods."

#### **To Advertise "KM" Cleanser**

National Home Products, Inc., New York, has recently appointed Dudley Wiesel, Inc., as national distributing agent for its cleansing product "KM." Trade publications, magazines, radio and car cards will be used in advertising the product.

#### **Nye to Address DCAT Banquet**

Senator Gerald P. Nye, North Dakota, will address members of the Drug, Chemical and Allied Trades Section of the New York Board of Trade at their annual banquet at the Waldorf-Astoria, New York, on

with a percentage of 23.1 per cent. "Chipso" claimed third place with 11.8 per cent and "Kirkmans" was fourth with 7.8 per cent of the market. "Lux," with 48.7 per cent of the market was the most popular of fine fabric and beads soap, "Ivory Flakes" was runner-up with 37.0 per cent, while "Dreft" was next with 9.5 per cent.

In the scouring powder market, "Sunbrite" claimed an unchallenged first place, with a preference of 47.1 per cent, its nearest rival being "Old Dutch" with a preference of 17.1 per cent. Seven other brands ranged in popularity from 6.6 per cent down to 1.2 per cent. An even more substantial lead was exhibited in the Cleveland water softener and soap savers market by "Climalene," whose consumer popularity amounted to 52.8 per cent. The nearest brand competitor was "La France" with a preference of 3.8 per cent of the users of this type product. However, 9.1 per cent of this market preferred liquid bleaches, not naming any particular brand.

March 14. Senator Nye has served in the upper house since 1925 and for some years prior to that had been one of the country's outstanding publishers.

#### **P & G Use Hand Theme**

Procter & Gamble, Cincinnati, have been using large space in Chicago newspapers to feature American Family Speed Flakes for dishwashing in the home. The copy ties in with a "Beautiful Hands" contest sponsored by the American Cosmetics National Association. Included in the layout is the picture of a Chicago housewife who won first prize in the contest.

#### **"Blue Barrel" on Radio**

Haskins Brothers & Co., soap manufacturers, Omaha, Nebr., are planning a new radio advertising campaign for their products "Blue Barrel" and "Trilby" soaps. Presba, Fellers & Presba, Chicago, have been appointed to handle the account.



### Cite Packer's Tar Soap

Packer's Tar Soap, Inc., manufacturer of a medicinal preparation for the hair known as "Scalptone," New York, has entered into a stipulation with the Federal Trade Commission that it will cease representing that all dandruff is due or usually due to an infection with *Pityrosporon ovale* or any other organism and that "Scalptone" disinfects the scalp and constitutes a complete scalp treatment. The company further agrees to cease representing that experts generally are of the opinion that baldness is due to wetting of the hair, or that dandruff is generally the cause of baldness.

### Swift Reports to Employees

Swift & Co., Chicago, recently supplemented their annual stockholders' report with a "Report to Employees," issued for the second successive year as a feature of the company's industrial relations program. The 20-page booklet, liberally illustrated, explains in easy-to-understand terms "where the money comes from," and "how it is being used." Employee loyalty and pride are stimulated in an account of operations and activities showing how each task performed by employees is related to the company's identity as a whole. Featuring the presentation are pictures of employees with long service records, from the six who have served forty-nine years to the 125 who last year completed thirty-five years of continuous service with Swift.

### Deupree Urges Stabilized Jobs

Stabilization of employment was urged for American industry by R. R. Deupree, president, Procter & Gamble Co., Cincinnati, in an address before a recent meeting of the Illinois Manufacturers' Costs Association. Although pension plans and other employee benefits are important, he said, nothing takes the place of a steady job. Stabilization of employment is nothing more than good business, he continued, citing the record of the Procter & Gamble Company, which has doubled its wage rate in the last 14 years, met in-

creased taxes and other costs, but whose unit cost of production has not increased. An even production line, he remarked allows a company to



Richard R. Deupree

work at or near capacity throughout the year, whereas a company whose production jumps up and down has equipment idle part of the time, must pay higher prices for raw materials which it cannot order far in advance, and receives less cooperation from its employees.

### Chem. Salesmen Golf Dates

Philip LoBue of Joseph Turner & Co., chairman of the entertainment committee of the Salesmen's Association of the American Chemical Industry, has announced the selection of dates for the association's four golf tournaments to be held this year. They are as follows: June 18, Green Meadow Country Club, Harrison, N. Y.; July 16, Canoe Brook Country Club, Summit, N. J.; August 20, Bonnie Briar Club, Larchmont, N. Y., and September 17, Pomonok Country Club, Flushing, L. I.

### Retires From Beach Soap Co.

Robert Stanley, superintendent of the Beach Soap Co., Lawrence, Mass., recently retired after serving in that capacity for the past 28 years. Mr. Stanley joined the company in 1895 as bookkeeper and was elected secretary in 1910. He is succeeded as superintendent by Charles C. Hay, formerly assistant superintendent of the Chicago factory of E. F. Houghton & Co., Philadelphia.

### Krantz to Speak at Clinic

Karl T. Krantz, mechanical engineer, Colgate-Palmolive-Peet Co., Jersey City, N. J., will be a technical advisor at a clinic "Pitfalls In Package Production" which will comprise the Tuesday morning session of the Tenth Conference on Packaging, Packing and Shipping to be held at the Hotel Astor, New York, March 26 to 29. The conference program this year is said to be the most comprehensive ever offered and will cover all phases of packaging, packing and shipping.

### France to Use National Soap

The French Government has recently requested all French soap makers to manufacture a standard quality soap, which will be known as "national soap." In this manner, it is hoped to avoid competition and the unnecessary consumption of raw materials.

### Soap Specif. Comm. To Meet

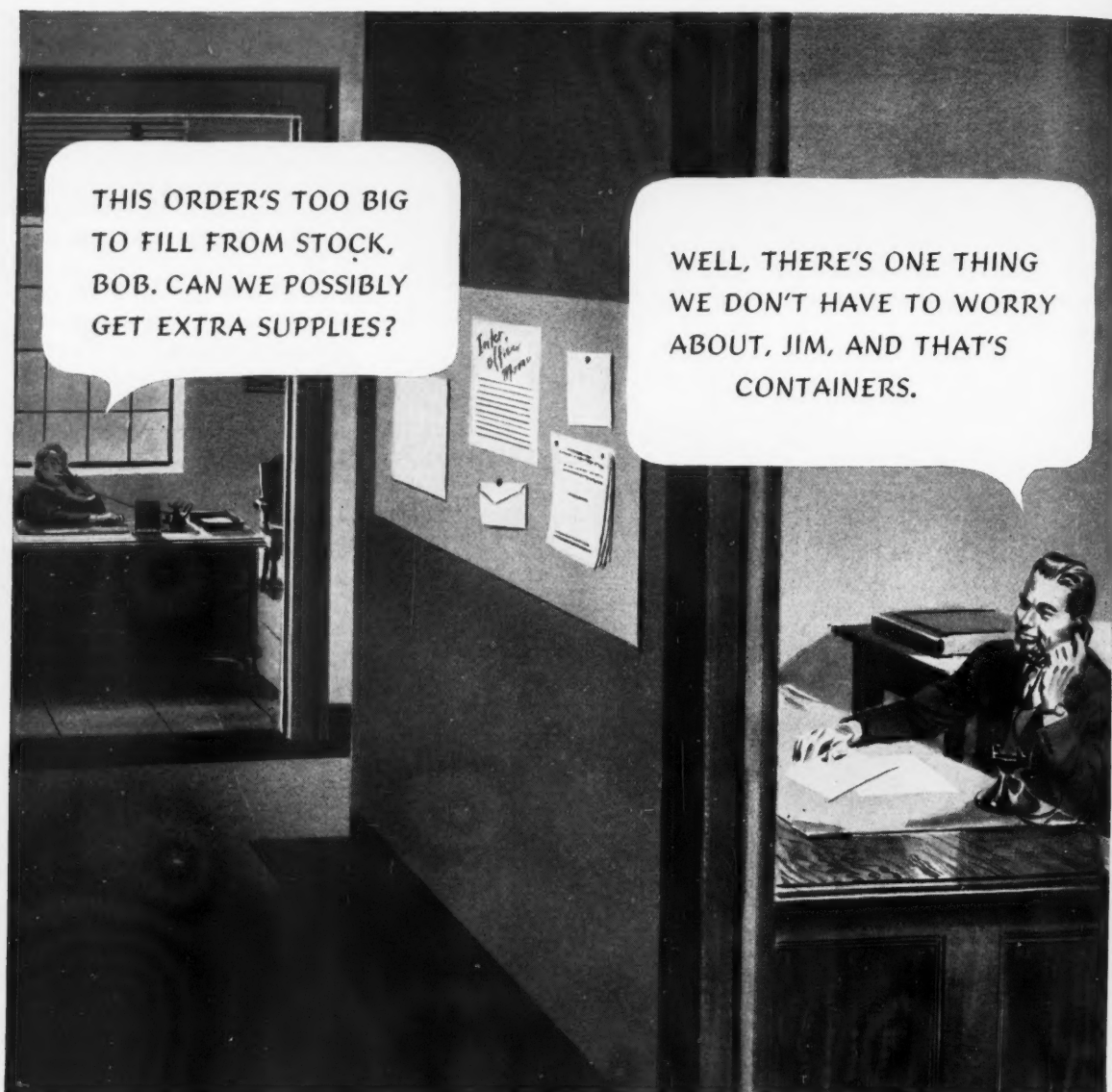
Committee D-12, soap specification committee of the American Society for Testing Materials, will hold its Spring meeting at the Hotel New Yorker, New York, on Monday and Tuesday, March 11 and 12. Various committees will report on work carried on since last November and continuation of old programs and adoption of new programs will be discussed.

### Soap Salesman Awarded Cup

Victor J. Thomas, Salt Lake territory salesman for Lever Bros. Co., was recently awarded a loving cup by his company in recognition of his sales work during 1939. Mr. Thomas led the production records of 17 competing senior salesmen in eleven western states, having the best sales record and the largest sales volume.

### Gulick Heads Mfrs.' Club

Charles P. Gulick, chairman of the board, National Oil Products Co., Harrison, N. J., has recently been elected president of the Manufacturers' Club of West Hudson County, N. J.



“**O**ur Requirement Contract with American Can protects us at times like this. No matter how much our needs grow, we’re always “covered.” But I’m not so sure about the other things, I’ll have to check and let you know . . .”



AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.

## CPP Sales at New High

E. H. Little, president, Colgate-Palmolive-Peet Co., Jersey City, recently announced that the company's world-wide sales for 1939 were \$101,935,438, the highest in the history of the company. This surpasses the previous high of \$100,565,165 of 1929. The 1939 sales do not include those of the German, Italian and Polish subsidiaries which were included in previous years. The Colgate-Palmolive-Peet company's profits for 1939 amounted to \$6,632,654 equal to \$2.74 a share of common stock. This compares with \$4,921,921 or \$1.77 per common share in 1938.

## Wage Law Covers Watchmen

Watchmen are as much engaged in the production of goods for interstate commerce as those operating the production machinery, according to Federal Judge Isaac M. Meekins in a ruling arising from a contempt proceeding where the question was raised in court of paying a watchman the minimum wage and overtime rate prescribed by the Federal Wage and Hour Law. The question was raised by W. B. Coppersmith & Sons, Inc., sawmill operators of Elizabeth City, N. C., who maintained that a night watchman at the sawmill was not engaged in the production of goods for interstate commerce, and therefore not subject to the Fair Labor Standards Act.

## Soap Makers Re-elect Countway

F. A. Countway of Lever Brothers Company was re-elected president of the Association of American Soap and Glycerine Producers at the annual meeting held February 8th at the Waldorf-Astoria Hotel, New York City. Other officers of the Association were also re-elected as follows: E. H. Little, vice-president for eastern states, R. R. Deupree, vice-president for central states, F. H. Merrill, vice-president for western states, N. S. Dahl, treasurer, A. Roy Robson, assistant treasurer, Roscoe C. Edlund, secretary.

The only change in the board

of directors of the Association came in the election of J. D. Nelson of Andrew Jergens Co., Cincinnati who succeeded F. C. Adams of the same



F. A. Countway

company as a member of the Board. Other directors were re-elected as follows: H. D. Banta, Iowa Soap Co., Burlington, Iowa; F. A. Countway, Lever Brothers Co., Cambridge, Mass.; N. S. Dahl, John T. Stanley Co., New York City; R. R. Deupree, Procter & Gamble Co., Cincinnati; G. A. Eastwood, Armour & Co., Chicago; S. S. Fels, Fels & Co.,

Philadelphia; A. Haas, Newell-Gutradt Co., San Francisco; E. B. Hurlburt, J. B. Williams Co., Glastonbury, Conn.; O. E. Jones, Swift



Roscoe C. Edlund

& Co., Chicago; E. H. Little, Colgate-Palmolive-Peet Co., Jersey City; A. L. Mercer, Beach Soap Co., Cleveland; F. H. Merrill, Los Angeles Soap Co., Los Angeles; G. A. Wrisley, Allen B. Wrisley Co., Chicago; C. F. Young, Davies-Young Soap Co., Dayton, Ohio. A more detailed account of developments at the meeting occurs elsewhere in this issue.

## W. W. Robertson Dies

William W. Robertson, president, Orford Soap Co., manufacturer of "Bon Ami," Manchester, Conn., died late in January of accidental poisoning. Mr. Robertson, who was 57 years old, had been president of the company since 1912. His father, John Robertson, founded the concern.

## "Super Suds" Becomes "Klek"

Colgate-Palmolive-Peet Co., Jersey City, has changed the name of its product "Super Suds" to "Klek." The change was made because it was

thought likely that "Super Suds," packaged in a red box, might be confused with another of the company's products, "Concentrated Super Suds," in a blue box. The latter product is recommended for laundering while "Super Suds" is used primarily for dish washing. To familiarize customers with the change of name, each box of "Klek" has an outer wrapper simulating the old style.

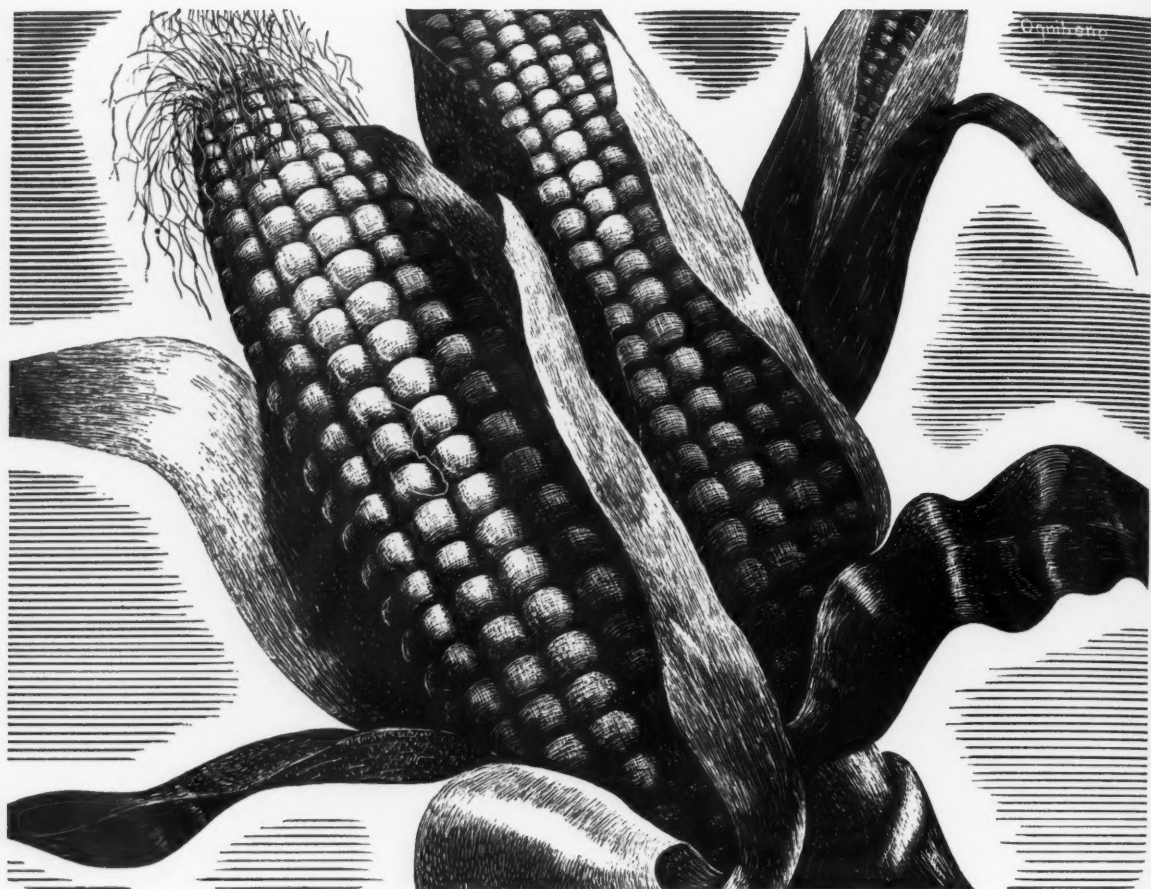
## 1938 Canadian Soap Output

Soaps and cleaning preparations produced in Canada during 1938 were valued at \$18,241,985 or 7.1 per cent less than the output of \$19,693,888 in 1937. During 1938, 109 factories were engaged in producing materials of this sort while in 1937 there were 101. Employees numbered 2,273 in 1938 and were paid wages and salaries totaling \$2,942,456 as compared with 2,284 employees in 1937 with salaries and wages at \$2,836,208.

## CARPET CLEANERS

Carpet, rug, and upholstery detergents, their composition, use, and the equipment used by cleaning establishments in England for commercial work . . . an illustrated discussion of the subject by Paul I. Smith in the next issue of *Soap & Sanitary Chemicals*.





## Bred from Selected Stock

Produce of the land—or products of the factory—both must be bred from carefully selected stock to win acclaim in the market place. Many manufacturers have won acclaim for their products with the help of Niagara materials—Caustic Soda, Carbonate of Potash and Caustic Potash. When you need these materials think of Niagara as a source of “selected stock” for achieving high quality results.

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### ACS to Meet in Cincinnati

Procter Thomson, head of the standards department of the chemical division of Procter & Gamble Co., is general chairman of a commission of 17 in charge of arrangements for the 99th meeting of the American Chemical Society to be held in Cincinnati on April 8-12. Attendance is expected to reach 3,500 and the program calls for hundreds of papers and addresses in 17 divisions. Dr. Alfred Springer, dean of Cincinnati chemists has been appointed honorary chairman of the meeting which will be under the auspices of the Cincinnati Section of the society. For 57 years prior to 1930 Dr. Springer was sole owner of the chemical firm of Alexander Fries & Brothers, founded in Cincinnati by his uncle. On the Cincinnati committee with Mr. Thomson are Daniel J. Kooyman, research bio-chemist for Procter & Gamble and Wilmer C. Gangloff, chemical director of the Drackett Chemical Company.

### Armour Re-Elects Officers

Frederick H. Prince was re-elected Chairman of the Board of Armour & Co. at the directors' meeting following the annual shareholders' meeting in Chicago, Jan. 26. Mr. Prince recently observed his 80th birthday anniversary. George A. Eastwood was re-elected president and all other officers were re-elected for their respective positions. One new vice president was added in the person of Harvey G. Ellerd, who has been with the company thirty-three years and has been director of personnel the past nine years. Shareholders re-elected the following directors; Frederick H. Prince, A. Watson Armour, James R. Leavell, D. R. McLennan, Charles J. Faulkner and Robert H. Cabell. President Eastwood was also elected to the directorate.

### New Canadian CPP Executives

Charles R. Vint, formerly vice-president, Colgate-Palmolive-Peet Co., Ltd., Toronto, was recently named president of the company. He joined the firm in 1913, supervising the building of the Palmolive plant at

Toronto and then taking charge of operations, as general manager. Mr. Vint is succeeded as vice-president by Gordon H. Sloan, who has been sales manager of the company since 1934. Prior to that he was supervisor of toilet article sales and before that a salesman with the Colgate company.

### Oil Trades Assn. to Elect

The Oil Trades Association of New York will hold its annual meeting and election of officers in the Roof Garden of the Waldorf-Astoria Hotel, New York, on March 19. The nominating committee has returned a slate of officers with William H. Correa, Socony-Vacuum Oil Co., as president; W. M. Osborn, Zimmerman Alderson Carr Co., vice-president; Joseph C. Smith, Smith-Weihman Co., secretary, and Rudolph G. Sonneborn, L. Sonneborn Sons, Inc., treasurer. Directors nominated are: Charles V. Bacon; John W. Baker, Philippine Refining Corp. of N. Y.; J. H. Blakney, Colgate-Palmolive-Peet Co.; E. L. Cleaves, James B. Berry Sons' Co.; William H. Correa; Dart E. Hoffman, Tide Water Associated Oil Co.; W. M. Osborn; John F. Renick, Renick & Mahoney, Inc.; H. Mart Smith, Arrow Oil Co.; Albert J. Squier, Squier and Sanderson, Inc., and Edward A. Theurkauf, F. Marsily & Co.

### Chemical Products Co. Moves

Superior Chemical Products Co., Youngstown, Ohio, has moved to new and larger quarters at 817 Himrod Avenue.

### John M. Murray Dies

John M. Murray, well-known in oil trade circles, died in Medical Center, New York, several weeks ago. He was 65 years of age, and at the time of his death was chairman of the cottonseed products committee of the New York Produce Exchange. Mr. Murray had previously served two terms as president of the exchange and for many years acted as its treasurer. He was also active in the affairs of the Oil Trades Association of New York and in 1924 was president of that association.

### T. G. A. Sets Meeting Date

The Toilet Goods Association will hold its 1940 annual meeting May 14 to 16, in New York. As yet, the convention hotel has not been chosen.

### Gaylord, Rumford Sales Mgr.

Raymond E. Gaylord, formerly vice-president, Cream of Wheat Co., has recently been appointed general sales manager of Rumford Chemical Works, manufacturers of phosphates, Providence, R. I.

### P & G Profit Sharing

Over 2,500 Cincinnati employees of Procter & Gamble participated in the 105th profit-sharing meeting at Music Hall on February 3, receiving the semi-annual dividends that brought their 1939 total bonus to \$377,000. This is part of the total of \$936,000 paid out for 1939 to the 7,038 workers of the company throughout the United States and Canada. President R. R. Deupree, addressing the gathering, said: "The past ten years have been the most important in the company's history. They were really depression years. In this period the company has added several factories here and abroad, has developed a half-dozen new products in its own laboratories and quite naturally has added hundreds of men and women to its payroll. During this period we have been able to increase wages 39 per cent and reduce the work hour week by 28 per cent." He said that employees own outright or have in their names 156,183 common shares of the company valued currently at \$10,600,000. About 100 men had been advanced from the ranks to executive positions during this period to take care of the expansion program, he said. A vaudeville show and dance were entertainment features arranged by the following committee: Ivorydale Plant Superintendent F. A. Brown, W. W. Blaesi, H. S. Brutton, T. S. Eagen, C. J. Fahnle, H. R. Langman, S. P. McCalmont, J. E. Pruden, W. M. Ramsey, John Robinson, W. L. Romney, T. H. Thompson and W. H. Tuttle.

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**Y**OUR problem in soap perfuming, when submitted to us, receives the careful, painstaking attention of practical soap makers as well as practical perfumers. And **that** combination of expert opinion assures a solution that will stand the one test all-important to you . . . the test of **time!** Such service—invaluable to the small manufacturer—has contributed odor-appeal to products bearing some of the biggest names in soapdom. So, whether you make toilet or laundry soaps, shaving soaps or shampoos, in cake, flake, powder or liquid form, the chances are we can help you, either in the creation of an appropriate fragrance or in supplying uniform, reliable, moderately priced aromatic chemicals and perfume raw materials with which to make your products most appealing and profitable.

## 3 THE MAKER OF FLY SPRAYS and INSECTICIDES

**F**ASTIDIOUS housekeepers are not repeat buyers of sanitary chemicals that leave repelling, telltale scents. **Complete** coverage of your product's characteristic odor is a pre-requisite, therefore, to sales success in this field. The mere addition of pleasant smelling aromatics is seldom enough, for usually the real offenders are the crude basic materials of which such products are mostly composed. To get at the "seat of the trouble," pre-deodorization may be necessary, and this is a problem for the expert. That is why it is best to bring your problem to an organization equipped as ours is, by long experience, to create a lasting, livable and appealing fragrance for your product—one, you can be sure, will hold the patronage of your choosiest customers.

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If you will send us an unscented sample of your product, indicating odor preference and cost limits, our laboratory will develop an appropriate fragrance made to **your** specifications for **your** exclusive use.

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YESTERDAY — tolerated; today—TABOO! That, in a few words, sums up the present attitude of users—and manufacturers, too—of many long used, highly effective, but offensive smelling chemical specialties. Time was when a really good product could have a really bad odor and get away with it. But competition—plus the natural urge for improvement — has changed all that, and today, even cattle are sprayed with chemicals devoid of odor. We've worked closely for years with manufacturers of the most diversified products toward the end that objectionable odors might be effectually eliminated. Our many successes encourage us to feel that we can broaden the sales horizon for any manufacturer of chemical specialties who has a bad odor problem to contend with. By sending us a working sample of your product we can demonstrate in a practical way how and at what cost this can be accomplished.

### Chicago Perfumers' Committees

Paul H. Pettit, new president of the Chicago Perfumery, Soap and Extract Assn., has recently appointed the following committee chairmen for 1940. golf, H. B. Elwell; legislative, George A. Wrisley; membership, M. B. Vance; entertainment, R. L. Holland and J. D. Small; publicity, Thomas Morgan; bowling, A. O. Nelson; luncheon, R. F. McClellan.

### Foragers' Card Party

A number of members and guests enjoyed a Foragers' Card Party at the Midston House, New York, on February 29. The entertainment was in charge of Bud Keeley. *Toilet Requisites*; Walter Conklin, Helfrich Laboratories of N. Y.; and George Dermody, Richard Hudnut.

### Chicago Drug Club Lunch

Chicago Drug & Chemical Association's luncheon meeting at the Morrison Hotel, Feb. 29 was addressed by Dr. Emory W. Luccock who discussed the "undeclared" Sino-Japanese war and conditions in China.

### Jones CPP Sales Executive

Breckenridge Jones has recently been appointed assistant sales manager of Colgate - Palmolive - Peet Co., Jersey City, N. J. Mr. Jones formerly held executive positions in Procter & Gamble Co., Cincinnati, and Hewitt Soap Co., Dayton, O.

### Offer New Titanium Oxide

R. F. Revson Co., New York, has announced the production of a purified titanium dioxide, certified to contain not more than 20 parts lead nor more than two parts arsenic per million. The company states that its purity makes it suitable for such applications as catalysis.

### Summers Mfg. Changes Name

Summers Manufacturing Co., Tampa, Fla., has recently changed its name to Summers Products Co. No changes have been made in the personnel nor is any contemplated in the change of address which remains 2010 Central Avenue.

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# Contracts Awarded

## Washington Soap Bids

Kirkman & Sons, Brooklyn, submitted the low bid of 1.29c on 21,000 lbs. scouring powder in a recent opening by the Treasury Procurement Supply Dept. at Washington, D. C. At the same opening, J. Eavenson & Son, Camden, N. J., bid low on 150,000 lbs. laundry soap at 1.79c, and John T. Stanley Co., New York, submitted the low bid of 9.55c on 6,000 lbs. toilet soap

## Liquid Cleaner Bid

J. A. Tumbler Laboratories, Baltimore, submitted the low bid of 20c on 600 gals. liquid cleaner in a recent opening by the Treasury Procurement Supply at Washington, D. C.

## Grit Soap Bids

Larkin Soap Co., Teaneck, N. J., submitted the low bid of 3.74c on 10,008 lbs. grit soap in a recent opening by the Treasury Procurement Supply at Washington, D. C. At the same opening, S & S Soap Co., Brooklyn, bid low on 750 lbs. grit soap at 3.6c.

## Naval Cresol Bids

Harley Soap Co., Philadelphia, submitted the low bid of \$531.80 on 675 gals. cresol solution in a recent opening by the Navy Department at Washington, D. C. At the same opening, Crystal Soap & Chemical Co., Philadelphia, bid low on 5,700 gals. cresol solution at 72.5c f.o.b. works.

## Ft. Mason Chip Soap Award

Colgate - Palmolive - Peet Co., Berkeley, Calif., was awarded the contract on 4,500 lbs. chip soap at 6.39c in a recent opening by the U. S. Army Quartermaster at Ft. Mason, Calif.

## Washington Soap Awards

Jas. Good, Philadelphia, was awarded the contracts on 1,750 lbs.

automobile soap at 4.58c, and on 1,050 gals. toilet soap at 23.4c in a recent opening by the Treasury Procurement Supply at Washington, D. C.

## Furniture Polish Award

Cole Chemical Corp., Long Island City, N. Y., was awarded the contract on 150 cans furniture polish at 14c in a recent opening by the Treasury Procurement Supply at Washington, D. C.

## Shaving Soap Award

N. Brittingham & Sons, Philadelphia, were awarded the contract on 380 packages shaving soap at 20.8c in a recent opening by the Treasury Procurement Supply at Washington, D. C.

## Naphthalene Bid

Harshaw Chemical Co., Philadelphia, submitted the low bid on 13,000 lbs. flake naphthalene at 7.25c in a recent opening by the Army Air Corps at Wright Field, Ohio.

## Pyrethrum Concentrate Bid

R. J. Prentis & Co., New York, submitted the low bid of \$5.90 on 100 gals. pyrethrum concentrate in a recent opening by the U. S. Marine Corps at Washington, D. C.

## Disinfectant Award

R. M. Hollingshead Corp., Camden, N. J., was awarded the contract on 110 gals. disinfectant at 59c in a recent opening by the Dept. of Justice at Lewisburg, Pa. At the same opening, Industrial Distributors, New York, were awarded the contracts on 144 qt. cans furniture polish at 15c and on 20 cases scouring cleanser at \$1.40.

## Floor Polish Awards

R. M. Hollingshead Corp., Camden, N. J., was recently awarded the contracts on the following amounts of floor polish in a recent

opening by the War Dept.: 2,000 cans at 51.2c; 1,000 cans at 55c; 4,500 cans at 47c; 500 cans at 44.2c, and 300 cans at 48c. At the same opening, the Hollingshead company was also awarded the contracts on 100 cans floor wax at 25.93c; 1,400 cans floor wax at 23.5c, and on 3,000 cans floor wax at 85.2c.

## Insecticide Award

American Fluoride Corp., New York, was awarded the contract on 2,000 drums insecticide at \$3.75 in a recent opening by the War Department at Brooklyn.

## Scouring Compound Award

Armour & Co., Chicago, were awarded the contract on various amounts of soap scouring compound in a recent opening by the War Department at Brooklyn. The amounts were: 50,000 containers at 2.61c; 10,000 containers at 2.99c, and 40,000 containers at 2.53c.

## Metal Polish Bid

Waxaid Corp., Baltimore, submitted the low bid of 7.1c on 5,004 lbs. metal polish in a recent opening by the Post Office Supply at Washington, D. C.

## Panama Canal Soap Bids

Los Angeles Soap Co., Los Angeles, submitted the low bids of \$155.93 on 2,250 lbs. toilet soap and \$109.32 on 12,000 cakes toilet soap in a recent opening for the Panama Canal Supply at Washington, D. C. At the same opening, Newell-Guttradt Co., San Francisco, bid low on 7,500 lbs. laundry soap at \$262.50 and Colgate-Palmolive-Peet Co., Jersey City, N. J., bid low on 9,000 lbs. salt water soap at \$222.30.

## Scouring Compound Bids

Stevens Soap Corp., Brooklyn, submitted the low bid of \$292 on 13,000 lbs. scouring compound in a recent opening by the Navy Dept. at Washington, D. C. At the same opening, Pioneer Soap Co., San Francisco, bid low on 4,200 lbs. scouring compound at 3.2c.



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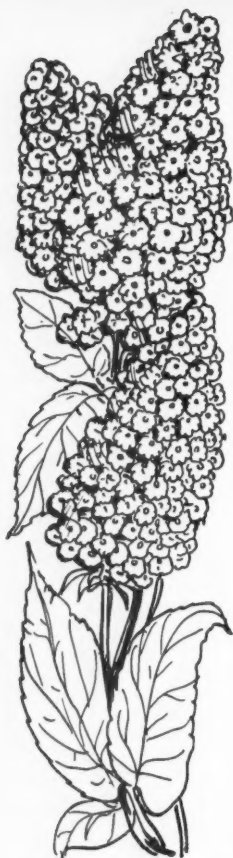
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# New Trade Marks

The following trade-marks were published in the February issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

## Trade Marks Filed

**HANDISAN**—This in solid letters describing cleaning compound. Filed by Turco Products, Inc., Los Angeles, Nov. 6, 1939. Claims use since Aug. 21, 1939.

**ESSANEE**—This in solid letters describing detergent. Filed by S & E Chemical Co., Chicago, Nov. 1, 1939. Claims use since Oct. 6, 1938.

**ESSO**—This in solid letters describing cleaning preparations. Filed by Standard Oil Co. of New Jersey, Wilmington, Del., Nov. 8, 1939. Claims use since Oct. 4, 1939.

**CELLOSOPE**—This in solid letters describing dry cleaning soap powder. Filed by Hardin Chemical Co., New York, Nov. 24, 1939. Claims use since Sept. 8, 1939.

**SUPERBILD**—This in solid letters describing cleaning compounds. Filed by the Solvay Process Co., New York, Dec. 1, 1939. Claims use since Sept. 28, 1939.

**SALVPOGEN**—This in script letters describing dentifrice. Filed by Roy C. Chambers, Los Angeles, Oct. 10, 1939. Claims use since Sept. 28, 1939.

**DURA PERL**—This in fancy letters describing dentifrices. Filed by Berg-Williams Corp., Denver, Del., Dec. 2, 1939. Claims use since Oct. 16, 1939.

**ESSO**—This in solid letters within oval, describing polishes. Filed by Standard Oil Co. of New Jersey, Wilmington, Del., Nov. 8, 1939. Claims use since Oct. 4, 1939.

**MYSTERY**—This in outlined

letters within triangular figure of contrasting color, describing glass and metal cleaner. Filed by Alfred Emiley, New Lenox, Ill., July 27, 1939. Claims use since July 18, 1939.

**SQUIRTEX**—This in solid letters describing cleaning preparation. Filed by Squirtex Co., Philadelphia, Oct. 30, 1939. Claims use since June 2, 1939.

**DIASOL**—This in stenciled letters describing dry cleaner. Filed by Diamond Alkali Co., Pittsburgh, Dec. 9, 1939. Claims use since Oct. 21, 1939.

**BATHY**—This in solid letters describing soaps and cleansers. Filed by Fitzpatrick Bros., Inc., Chicago, Dec. 9, 1939. Claims use since Nov. 10, 1939.

**NU MOWN HAY**—This in script letters describing disinfectants. Filed by The Dairy Laboratories, Philadelphia, Sept. 21, 1939. Claims use since June, 1939.

**TRI**—This in solid letters describing insecticides. Filed by Rose Manufacturing Co., Philadelphia, Sept. 23, 1939. Claims use since July 11, 1932.

**KREKT**—This in solid letters describing shampoos. Filed by Chadwick Chemical Co., Newark, N. J., Nov. 17, 1939. Claims use since Sept. 8, 1939.

**ATOTA**—This in solid letters describing insecticides. Filed by Chemische Fabrik Tempelhof Preuss & Temmler, Berlin-Tempelhof, Germany, Nov. 22, 1939. Claims use since 1922.

**Wow**—This in solid letters describing cleaner. Filed by Petroleum Solvents Corp., New York, Nov. 28, 1939. Claims use since Nov. 17, 1939.

**WAXMASTER**—This in solid letters describing wax sealer. Filed by The Waxmaster Co., Wellsville, O., Nov. 21, 1939. Claims use since Oct. 1, 1939.

**KLENEXO**—This in fancy letters describing cleansing preparation. Filed by The Selig Co., Atlanta, Ga.,

Nov. 8, 1939. Claims use since June 3, 1931.

**T C**—This in solid letters mounted upon a silhouette of the state of Tennessee. Filed by Tennessee Corp., New York, Nov. 9, 1937. Claims use since January, 1933.

**SNAK**—This in script letters describing insecticides. Filed by Berg Manufacturing Co., Tulsa, Okla., May 25, 1939. Claims use since April 1, 1939.

**SENCO**—This in solid letters describing insecticides. Filed by Sennewald Drug Co., St. Louis, Dec. 4, 1939. Claims use since May 31, 1935.

**HEALTH-TOL**—This in script letters describing tooth powder. Filed by Health-Tol Products Co., Detroit, Dec. 11, 1939. Claims use since Dec., 1938.

**VENUS**—This in solid letters above statue of Venus, describing automobile polish. Filed by R. M. Hollingshead Corp., Camden, N. J., Nov. 30, 1939. Claims use since Nov. 6, 1939.

**CHLORO-D**—This in solid letters describing cleaning preparation. Filed by Napco Products Co., Trenton, N. J., Dec. 4, 1939. Claims use since Oct. 1, 1938.

**DOROTHY DEANNE**—This in script letters describing shampoo. Filed by Lander Co., New York, Nov. 18, 1939. Claims use since Oct., 1937.

**PARISUL**—This in solid letters describing insecticides. Filed by General Chemical Co., New York, Dec. 20, 1939. Claims use since July 28, 1938.

**MAINLINER**—This in solid letters describing dentifrices. Filed by Delettrez, Inc., Long Island, N. Y., Jan. 11, 1940. Claims use since Aug. 26, 1939.

## Trade Marks Granted

374,838. Tooth Powder. The Garden Tooth Powder Co., Garden, Mich. Filed August 27, 1938. Serial No. 410,059. Published November 7, 1939. Class 6.

374,844. Cleaning Powder. Hygienic Products Co., Canton, Ohio. Filed December 10, 1938. Serial No.



**ALWAYS SEASONABLE**  
*for the Soapmaker*

**ISCO CAUSTIC POTASH**

All American Product  
All forms and packages  
FLAKES • SOLID • GRANULAR  
BROKEN • LIQUID (Iron Free)

**ISCO CAUSTIC SODA**

Various forms and standard  
grades  
SOLID • FLAKE • CRYSTALS  
LIQUID

**MIRBANE OIL** (Nitro  
Benzol)

Prime Light Yellow

**CARBON TETRA-  
CHLORIDE—99.7%**

**ISCO REFINED WAXES**

CARNAUBA • CANDELILLA  
Lump and Flake forms

BEESWAX—Slabs • Discs  
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**ISCO TRINITY TALC—**

A Domestic Superior Quality  
Comparable with the best imported  
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**RESINOLIDS**

Rose	Oak Moss	Fl. d'Oranger
Jasmin	Patchouli	Vetyvert

The weak point in many inexpensive soap perfumes is improper fixation. Odor character is satisfactory but lasting quality is poor. RESINOLIDS have been developed to solve this problem. When blended with aromatic chemicals and essential oils, they form a lasting base far superior to any other fixative now on the market. They are not finished odors themselves, but are extremely serviceable as bases for any type bouquet, either oriental or floral. They give roundness and finish to the odor and contribute lasting quality as well. On the side of economy they permit the use of a lower percentage of perfume oils by neutralizing fatty odors.

*Testing Samples Are Available*

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New York, N. Y.

Tel. PLaza 3-8618



413,671. Published November 21, 1939. Class 4.

374,851. Fly Powder. Kawahara Co., Los Angeles. Filed February 21, 1939. Serial No. 416,290. Published October 24, 1939. Class 6.

374,854. Tooth Paste. The House for Men, Inc., Chicago. Filed February 25, 1939. Serial No. 416,420. Published November 7, 1939. Class 6.

374,857. Dentifrices. The Knox Co., Los Angeles. Filed March 8, 1939. Serial No. 416,803. Published November 7, 1939. Class 6.

374,870. Disinfecting Chemical Preparations. Protectol Co., Chicago. Filed June 5, 1939. Serial No. 420,186. Published October 24, 1939. Class 6.

374,873. Citrus Fruit Polishing Wax. David G. Ulrey, Lakeland, Fla. Filed June 17, 1939. Serial No. 420,614. Published November 7, 1939. Class 6.

374,878. Sodium Hypochlorite Solution; A Water Softener and Cleanser. Rayox Sales Co., Cleveland. Filed June 26, 1939. Serial No. 420,984. Published October 24, 1939. Class 6.

374,881. Animal Dip. Niagara Sprayer and Chemical Co., Middleport, N. Y. Filed June 29, 1939. Serial No. 421,095. Published October 24, 1939. Class 6.

374,887. Rat Exterminators and Roach Exterminators. James Laurens Nicholes, Philadelphia. Filed July 12, 1939. Serial No. 421,490. Published October 24, 1939. Class 6.

374,901. Insecticides Used On Domestic Animals. George A. Morty Co., Miami, Fla. Filed August 9, 1939. Serial No. 422,447. Published November 14, 1939. Class 6.

374,904. Shaving Cream. Wilson Chemical Co., Tyrone, Pa. Filed August 15, 1939. Serial No. 422,644. Published November 21, 1939. Class 4.

374,922. Disinfectant-Germicide. Arena-Javelle Co., New York. Filed August 25, 1939. Serial No. 422,976. Published November 7, 1939. Class 6.

374,926. Tooth Paste and Tooth Powder. Timothy F. Williams,

New York. Filed August 26, 1939. Serial No. 423,040. Published November 7, 1939. Class 6.

374,943. Bleaching and Disinfecting Solutions. Sinclair Manufacturing Co., Toledo, Ohio. Filed September 8, 1939. Serial No. 423,441. Published November 14, 1939. Class 6.

374,944. Dentifrices. John Knight Limited, London. Filed September 9, 1939. Serial No. 423,467. Published October 31, 1939. Class 6.

374,948. Soap. The Buck-Jack Co., Baltimore. Filed September 14, 1939. Serial No. 423,618. Published November 21, 1939. Class 4.

374,953. Cleaning Fluid. Federal Mining & Mfg. Co., Jersey City, N. J. Filed September 20, 1939. Serial No. 423,757. Published November 21, 1939. Class 4.

374,956. Cleanser. Linco Products Corp., Chicago. Filed September 22, 1939. Serial No. 423,846. Published November 21, 1939. Class 4.

374,973. Hand Cleanser. Fulton Process and Chemical Corp., Gloversville, N. Y. Filed October 3, 1939. Serial No. 424,166. Published November 21, 1939. Class 4.

375,082. Soap and Polish. United Buyers Corp., Chicago. Filed September 13, 1939. Serial No. 423,580. Published November 21, 1939. Class 4.

375,162. Deodorizing Cleaner. H-C Products Co., Detroit. Filed August 18, 1937. Serial No. 396,535. Published November 28, 1939. Class 4.

375,186. Shoe Polish. Pelican Products Co., New York. Filed February 4, 1939. Serial No. 415,609. Published December 5, 1939. Class 4.

375,209. No-Rubbing Floor Wax. Lanco Products Co., Brooklyn. Filed June 29, 1939. Serial No. 421,221. Published December 5, 1939. Class 16.

375,270. Household Cleanser. Linco Products Corp., Chicago. Filed September 15, 1939. Serial No. 423,690. Published November 28, 1939. Class 4.

375,305. Detergent Compound.

Cowles Detergent Co., Cleveland. Filed October 4, 1939. Serial No. 424,217. Published December 5, 1939. Class 4.

375,329. Soap for Leather. Viscol Co., Stamford, Conn. Filed October 12, 1939. Serial No. 424,506. Published December 5, 1939. Class 4.

375,370. Powdered Hand Cleaner. H. Kirk White & Co., Oconomowoc, Wis. Filed November 12, 1936. Serial No. 385,459. Published January 26, 1937. Class 4.

375,381. Insect or Fly Spray. Krom Laboratories, Inc., Kingston, N. Y. Filed August 11, 1938. Serial No. 409,473. Published November 22, 1938. Class 6.

375,438. Water Softener. The Tripp Corp., New York. Filed July 10, 1939. Serial No. 421,442. Published December 12, 1939. Class 6.

375,502. Soaps. Cleaning Compounds, and Metal Polishes. Gagg Chemical Co., Miami, Fla. Filed September 9, 1939. Serial No. 423,461. Published December 12, 1939. Class 4.

375,524. Insecticide. T. F. L. Insects Co., Farmington, Mich. Filed September 21, 1939. Serial No. 423,785. Published November 28, 1939. Class 6.

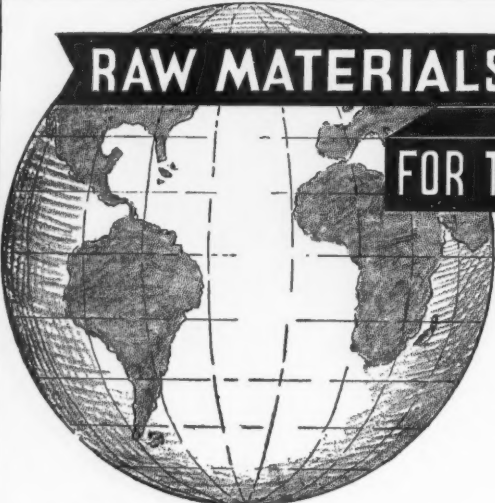
375,574. Toilet Soaps. Mary Woodard Reinhardt and Mary H. McSweeney, New York. Filed October 10, 1939. Serial No. 424,408. Published December 12, 1939. Class 4.

#### Utz, Rifa Chicago Manager

Otto Utz was recently appointed manager of the Chicago office of Rifa-New York, Inc., aromatic products, New York. The Chicago quarters are primarily a sales office, although specialties are carried for the convenience of customers in that area.

#### Owens-Illinois Advances Davis

Fisher N. Davis, assistant general sales manager, Owens-Illinois Glass Co., Toledo, O., has recently been placed in charge of the company's Texas sales offices. Mr. Davis had previously been located in Philadelphia, Indianapolis and Toledo.



**1838-1940**

**FOR THE SOAP INDUSTRY**

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Oils      Fats  
Chemicals  
Fatty Acids  
White Mineral Oils  
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	Mineral Oils	Fatty Alcohols	Petrolatums Special Fatty Acids
Castor Oil Coconut Oil Corn Oil Cottonseed Oil Palm Oil Palm Kernel Oil Olive Oil	Olive Oil Foots Peanut Oil Perilla Oil Rapeseed Oil Sesame Oil Soya Bean Oil Teaseed Oil	Fatty Acids Lard Oils Neatsfoot Oil Oleo Stearine Stearic Acid White Olein Tallow	Grease Lanolin Caustic Soda Soda Ash Caustic Potash Carbonate Potash Sal Soda Modified Soda Silicate Soda Metasilicate Tri Sodium Phosphate Di Sodium Phosphate Chlorphyll Superfatting Agent

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Castile, U.S.P.      Coconut, Pure      White Neutral  
Palm, Pure      Castor, Pure

**POTASH SOAPS**

Complete line of Shampoos, Shampoo Bases, Liquid Soaps, Oil Soaps, Pine Scrub and Automobile Soap.

*For the Trade*

**KRANICH SOAP COMPANY, INC.**

54 Richards Street      Brooklyn, N. Y.

# Raw Material Markets

As of February 27, 1940

**N**EW YORK — Worthy of note this period, is the downward price trend indicated in the essential oil list. Buyers, for the most part, were favored throughout the period by competition among sellers. The oils and fats list also exhibited a downward trend, although no change of any real importance made itself felt. The chemicals list maintained its usual quiet nature with a few scattered changes. No price changes were made in insecticide materials, but slight reductions were noted in gums and waxes.

## CHEMICALS

### Alkalies

Nothing out of the ordinary developed in the alkali market this period, although demand did slacken moderately. Consumers ordered close to production requirements and there were no price changes for any of the alkalies. December exports of soda ash amounted to 16,710,044 pounds valued at \$233,279 while exports of caustic soda for the same month equalled 27,068,933 pounds valued at \$634,097.

### Rosin

Business in the rosin market continued light this period with consumers limiting their purchases to small lots. Price movements were upward on most grades, probably because of small receipts in the primary market. Wood rosin continued its upward movement of the past few periods and is now quoted at \$4.75 to \$6.50 per barrel as compared with \$4.60 to \$6.25 a barrel last period.

## OILS AND FATS

### Coconut Oil

Prices in the coconut oil market eased off at the beginning of this period but regained their former level during the middle of the month. They are now being quoted at the same

levels as last period, sales of Manila crude, tanks, New York, taking place at  $3\frac{3}{8}$  cents per pound and tank futures on the Pacific Coast at  $2\frac{7}{8}$  cents per pound. Shipments of coconut oil from the Philippine Islands during December were nearly 50 per cent smaller than in November, but the total for 1939 was almost the same as in the previous year.

### Linseed Oil

Business in the linseed oil market started off slowly this period, but gathered momentum as the period advanced. Prices were shaded 6 points, on the average, toward the end of the period and considerable business was reported transacted at the new level. Tank cars are generally being sold around 9-4/10 cents per pound as compared with 10 cents per pound last period. Soil conditions in the Northwest were improved during this period by repeated rains, with indications still pointing to an increase in the next area under flaxseed.

### Palm Oil

Quotations were again resumed on palm oil this period, with the shipment figure finally settling at 4 cents per pound. The market abroad was reported as firm with offerings light. It is reported that the market seems cleared of spot Niger oil in casks.

### Tallow

The tallow market was easier this period with prices being shaded  $\frac{1}{4}$  cent from the previous level. Special is being sold at  $5\frac{1}{8}$  cents per pound, while the price of city extra is  $5\frac{1}{4}$  cents per pound. Offerings were light throughout the period, and although a somewhat better inquiry was reported, actual transactions were limited to small lots.

## ESSENTIAL OILS

### Citronella Oil

Buyers in the citronella oil market were much better off this period with competition among sellers

aggressive. Java oil was cheaper than Ceylon, being quoted at 39 to 40 cents per pound as compared with 42 and 45 cents per pound last period. The Ceylon oil moved downward to 40 and 41 cents per pound from its former level of 43 and 44 cents per pound. Conditions in this market are such as to favor further shading of prices.

### Anise Oil

Prices in the anise oil market were shaded to 72 and 75 cents per pound this period as compared with 73 to 78 cents per pound last period. A light demand throughout the period brought selling pressure with fairly active competition. Fair reserves are on hand.

### Camphor Oil

Although camphor, sassafrassy, dropped 2 cents per pound in price this period, the strong situation was unrelieved. Stocks are very small and are likely to remain at their low level. There are no signs of improvement in Japan, who wants business in derived products and cuts exports of the raw material to that end. The new price on sassafrassy is 36 to 37 cents per pound.

## N.A.M. Honors Ittner

Martin H. Ittner, Colgate-Palmolive-Peet Co., Jersey City, was a recipient of a scroll of honor, presented by the National Association of Manufacturers at its dinner held at the Waldorf-Astoria Hotel, New York, on February 27, for meritorious invention and research in the field of science. Mr. Ittner holds fourteen patents in the field of soap and glycerine production. One hundred and one of these honor scrolls were presented to American inventors and research workers for creating new jobs and raising the American standard of living by developing new products.

**15th Annual Drug Dinner  
March 14—Waldorf-Astoria**





## SOAP PERFUME PROBLEMS

especially when relating to white toilet soaps, very often cannot get the *undivided* attention in your plant unless the services of a perfumer are available. \* \* \*

Yet, you will concede that, from the "boss" or salesman down to the field man and office help, your soap PERFUME is *first up* on trial and secondly you are interested in its cost! Last but not least there is the question of STABILITY and DISCOLORATION of the perfume in a soap. \* \* \*

We are at your service. \* \* \* Perfumery is our business. \* \* \*

If possible, state the perfume character you prefer, also perfume cost limit based on 100 lbs. of soap stock.

## RIFA NEW YORK Inc.

Essential Oils • Aromatic Chemicals • Perfume Bases

153 Waverly Place

New York, N. Y.

Chicago Office: 130 N. State St.



**SARGENT'S DRYER and CHILLING ROLL**

One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.

**C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS**



# Raw Material Prices

(As of Feb. 26, 1940)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

## Chemicals

Acetone, C. P. drums.....lb.	\$ .07¼	\$ .07%
Acid, Boric, bbls., 99½%.....ton	106.00	138.00
Cresylic, drums.....gal.	.68	.70
Low boiling grade.....gal.	.68	.70
Muriatic, C. P., carboys.....lb.	.08	—
Oxalic, bbls.....lb.	.10%	.12
Adeps Lanae, hydrous, bbls.....lb.	.29	.30
Anhydrous, bbls.....lb.	.30	.31
Alcohol, Ethyl, U.S.P., bbls.....gal.	4.55	4.58½
Complete Denat., SD 1, drums, ex. gal.	.28½	.30½
Alum. Potash lump.....lb.	.04	—
Ammonia Water, 26°, drums.....lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.....lb.	.08	—
Bentonite, 1, works.....ton	—	16.00
Bentonite, 2, works.....ton	—	11.00
Bleaching Powder, drums.....100 lb.	2.00	3.35
Borax, pd., cryst., bbls., kegs.....ton	58.00	74.00
Carbon Tetrachloride, car lots.....gal.	.66½	1.10
L. C. L.....gal.	.73	1.17
Caustic, see Soda Caustic, Potash Caustic		
China Clay, filler.....ton	10.00	25.00
Cresol, U.S.P., drums.....lb.	.09%	.10¼
Creosote Oil.....gal.	.13½	.14½
Feldspar, works.....ton	32.00	35.00
(200 to 325 mesh)		
Formaldehyde, bbls.....lb.	.05%	.06%
Fullers Earth.....ton	10.00	—
Glycerine, C. P., drums.....lb.	.12½	.13
Dynamite, drums.....lb.	—	Nom.
Saponification, drums.....lb.	.08%	.09
Soap, lye, drums.....lb.	.07%	.08¼
Hexalin, drums.....lb.	.80	—
Kieselguhr, bags.....ton	No Prices	
Lanolin, see Adeps Lanae.		
Lime, live, bbls.....per bbl.	—	2.45
Mercury Bichloride, kegs.....lb.	1.89	2.04
Naphthalene, ref. flakes, bbls.....lb.	.06%	—
Nitrobenzene (Mirbane) drums.....lb.	.08	.09
Paradichlorobenzene, bbls., kegs.....lb.	.12½	.15%
Petrolatum, bbls. (as to color).....lb.	.04	.07½
Phenol (Carbolic Acid), drums.....lb.	.13	.13%
Pine Oils, bbls.....gal.	.53	.59
Potash, Caustic, solid.....lb.	.06¼	.06%
Flake, 88-92%.....lb.	.07	.07½
Liquid, 45% basis.....lb.	.03½	.03%
Potassium Carbonate, solid.....lb.	.06½	.06%
Liquid.....lb.	.03	.03½
Pumice Stone, powder.....100 lb.	3.50	4.50
Rosins (600 lb. bbls. gross for net)—		
Grade B to H, basis 280 lbs.....bbl.	6.05	6.80
Grade K to N.....bbl.	6.85	6.90
Grade WG to X.....bbl.	6.97	7.45
Wood.....bbl.	4.75	6.50
Rotten Stone, pwd. bbls.....lb.	.08½	.10
Silica.....ton	20.00	27.00
Soap, Mottled.....lb.	.04%	.04½
Olive Castile, bars.....lb.	.17	—
Olive Castile, powder.....lb.	.26	.30
Powdered White, Neutral.....lb.	.19	.22
Olive Oil Foot, bars, 68-70%.....lb.	.11	—
Green, U.S.P.....lb.	.09	—
Tallow Chips, 88%.....lb.	.08%	—
Soda Ash, cont., wks., bags, bbls.....100 lb.	1.10	1.35
Car lots, in bulk.....100 lb.	.95	—

Soda Caustic, cont., wks., solid.....100 lb.	2.30	—
Flake.....100 lb.	2.75	—
Liquid, tanks, 47-49%.....100 lb.	1.95	—
Soda Sal., bbls.....100 lb.	1.10	1.30
Sodium Chloride (Salt).....ton	15.00	15.60
Sodium Fluoride, bbls.....lb.	.07	.08¼
Sodium Hydrosulfite, bbls.....lb.	.16	.17
Sodium Metasilicate, ground.....100 lb.	3.75	4.80
Crystalline.....100 lb.	2.35	3.35
Sodium Pyrophosphate.....100 lb.	5.10	5.55
Sodium Silicate, 40 deg., drum.....100 lb.	.80	1.20
Drums, 52 deg. wks.....100 lb.	1.40	1.80
Tar Acid Oils, 15-25%.....gal.	.22	.28
Triethanolamine.....lb.	.19	.20
Trisodium Phosphate, bags, bbls.....lb.	.022	.028
Zinc Oxide, lead free.....lb.	.06%	.07%

## Oils — Fats — Greases

Babassu, tanks, futures.....lb.	.06%	Nom.
Castor, No. 1, bbls.....lb.	.13¼	.14
No. 3, bbls.....lb.	.12%	.13½
Coconut (without excise tax)		
Manila, tanks, N. Y.....lb.	.03%	—
Tanks, Pacific Coast, futures.....lb.	.02%	—
Copra, bulk, coast.....lb.	.0175	—
Corn, tanks, mills.....lb.	.06%	.06%
Cottonseed, crude, tanks, mill.....lb.	.06%	—
PSY, futures.....lb.	.07	.0735
Fatty Acids,		
Corn Oil, tanks.....lb.	.09	.09¼
Coconut Oil, tanks.....lb.	.10	.10%
Cotton Oil, tanks.....lb.	.08½	.08%
Settled soap stock.....lb.	.03	.03¼
Boiled soap stock, 65%.....lb.	.04	.04%
Foots, 50%.....lb.	.01%	.01%
Linseed Oil.....lb.	12.7	13.3
Red Oil, bbls., dist. or sapon.....lb.	.08½	.09½
Tanks.....lb.	.08	—
Stearic Acid,		
Double pressed.....lb.	.12	.13
Triple pressed.....lb.	.14%	.15%
Greases, choice white, bbls.....lb.	.05%	.05½
Yellow.....lb.	.05	.05%
Lard, city.....lb.	.0625	.0650
Linseed, raw, bbls.....lb.	.1000	.1050
Tanks, raw.....lb.	.0940	.0990
Boiled, 5 bbl. lots.....lb.	.1110	.1140
Olive, denatured, bbls., N. Y.....gal.	.96	.98
Foots, bbls., N. Y.....lb.	.08	.08%
Palm, shipment.....lb.	.04	—
Palm, Kernel, shipment.....lb.	No Prices	
Sesame Oil, drums.....lb.	.11½	.11%
Soya Bean, domestic, tanks, crude.....lb.	.06%	—
Stearine, oleo, bbls.....lb.	.06%	.06½
Tallow, special, f.o.b. plant.....lb.	.05%	—
City, ex. loose, f.o.b. plant.....lb.	.05%	—
Teaseed Oil, crude.....lb.	.12¼	—
Whale, refined.....lb.	.0910	—

**D&O**  
ESTABLISHED IN 1798

## PERFUME BASES . . .

*for all purposes*

**OSOLS**—water soluble bases for perfume sprays

**FORMOSOLS**—specially designed for masking formaldehyde

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in addition to our extensive line of up to date  
perfumes for toilet soaps and kindred products.

## DODGE & OLCOTT COMPANY

180 Varick Street

New York, N. Y.

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Plant and Laboratories . . . Bayonne, N. J.

# DRYMET

## ★ ANHYDROUS SODIUM METASILICATE

● DRYMET is commercial anhydrous sodium metasilicate in powdered form. Ordinary metasilicate carries 42% or more water of crystallization. DRYMET is the only water-free high  $\text{Na}_2\text{O}$  silicate on the market.

DRYMET blends successfully with and improves the effectiveness of most materials commonly used in alkaline cleaning compounds. Being anhydrous, DRYMET reduces the water content of

the finished product without sacrificing any essential property. DRYMET compounds will not cake or lump in the package.

Because it is so highly concentrated, DRYMET yields more chemical value per pound and per dollar. If you want to put out "longer mileage" products at a lower cost, DRYMET will do the job for you. Write us today for a laboratory sample and complete information.

### THE COWLES DETERGENT COMPANY

Heavy Chemical Department  
CLEVELAND, OHIO

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10529 Carnegie Avenue, Cleveland, Ohio

Please send me laboratory sample of DRYMET ☐

I wish to try DRYMET for the following: \_\_\_\_\_

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Company University of Chicago

City Chicago State \_\_\_\_\_

(As of Feb. 26, 1940)

### Essential Oils

Almond, Bitter, U.S.P.	lb.	\$2.00	\$2.10
Bitter, F. F. P. A.	lb.	2.10	2.20
Sweet, cans	lb.	.90	1.00
Anise, cans, U.S.P.	lb.	.72	.75
Bay, tins	lb.	1.20	1.35
Bergamot, coppers	lb.	4.25	4.50
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.85	.90
Crude, tins	lb.	.27	.28
Bois de Rose, Brazilian	lb.	1.60	1.65
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.55	.60
Cajeput, native, tins	lb.	.61	.62
Calamus, tins	lb.	8.25	8.50
Camphor, Sassy, drums	lb.	.36	.37
White, drums	lb.	.50	Nom.
Cananga, native, tins	lb.	1.70	1.75
Rectified, tins	lb.	2.15	2.20
Caraway Seed	lb.	3.00	3.25
Cassia, Redistilled, U.S.P.	lb.	1.30	1.35
Cedar Leaf, tins	lb.	1.00	1.05
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.39	.40
Citronella, Ceylon, drums	lb.	.40	.41
Clove, U.S.P., tins	lb.	1.38	1.43
Eucalyptus, Austl., U.S.P., cans	lb.	.60	.63
Fennel, U.S.P., tins	lb.	2.25	2.50
Geranium, African, cans	lb.	2.75	3.10
Bourbon, tins	lb.	2.40	3.10
Turkish	lb.	2.75	3.00
Hemlock, tins	lb.	1.00	1.25
Lavender, U.S.P., cans	lb.	2.50	5.30
Spike, Spanish, cans	lb.	1.20	1.25
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	.80	.85
Linaloe, Mex., cases	lb.	1.50	1.60
Nutmeg, U.S.P., tins	lb.	1.90	1.95
Orange, Sweet, W. Ind., tins	lb.	2.20	2.30
Italian cop	lb.	3.00	3.75
Distilled	lb.	.90	—
California	lb.	1.60	—
Origanum, cans, teach	lb.	1.10	1.65
Patchouli	lb.	4.50	5.55
Pennyroyal, dom.	lb.	3.00	Nom.
Imported	lb.	2.75	2.80
Peppermint, nat., cans	lb.	2.75	3.00
Redis., U.S.P., cans	lb.	3.00	3.25
Petitgrain, S. A., tins	lb.	1.40	1.50
Pine Needle, Siberian	lb.	1.20	1.25
Rosemary, Spanish, tins	lb.	.75	.80
drums	lb.	.70	.75
Sandalwood, E. Ind., U.S.P.	lb.	5.25	5.50
Sassafras, U.S.P.	lb.	1.20	1.25
Artificial, drums	lb.	.75	—
Spearmint, U.S.P.	lb.	2.20	2.25
Thyme, red, U.S.P.	lb.	1.35	1.40
White, U.S.P.	lb.	1.75	1.80
Vetivert, Bourbon	lb.	3.50	15.00
Ylang Ylang, Bourbon	lb.	5.75	6.50

### Aromatic Chemicals

Acetophenone, C. P.	lb.	\$1.60	—
Amyl Cinnamic Aldehyde	lb.	2.00	\$2.25
Anethol	lb.	1.05	1.15
Benzaldehyde, tech.	lb.	.55	.60
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.75	.80
Eugenol, U.S.P.	lb.	2.25	3.30
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	2.50	4.15
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	3.30
Linalyl Acetate	lb.	2.00	3.00
Menthyl	lb.	3.60	—
Methyl Acetophenone	lb.	2.50	3.00
Anthrnilate	lb.	2.10	2.25
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylene	lb.	1.05	1.20
Phenylacetaldehyde	lb.	2.10	2.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.50	3.35
Rhodinol	lb.	5.55	10.80
Safrol	lb.	.70	.75
Terpineol, C. P., 1000 lb. drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans.	lb.	.82	.85
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.65
Yara Yara	lb.	1.25	1.55

### Insecticide Materials

Insect Powder, bbls.	lb.	.33	.35
Pyrethrum Extract			
5 to 1	gal.	1.65	1.80
20 to 1	gal.	6.20	6.50
30 to 1	gal.	9.20	9.60
Derris, powder—4%	lb.	.18	.22
Derris, powder—5%	lb.	.24	.28
Cube, powder—4%	lb.	.20	.21
Cube, powder—5%	lb.	.24	.25

### Gums

Arabic, Amb. Sts.	lb.	.12½	.12¾
White, powdered	lb.	.16½	.18¾
Karaya, powdered No. 1	lb.	.14	.23
Tragacanth, Aleppo, No. 1	lb.	2.65	2.70
Flake	lb.	No Prices	

### Waxes

Bees, white	lb.	.38	.39
African, bgs.	lb.	.27	.27½
Refined, yel.	lb.	.31	.36
Candelilla, bgs.	lb.	.18½	.19
Carnauba, No. 1	lb.	.69	.72
No. 2, N. C.	lb.	.52	.53
No. 3, Chalky	lb.	.45	.46
Ceresin, yellow	lb.	.13	.15
Paraffin, ref., 125-130	lb.	.0675	.0680



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This interesting old-fashioned mechanical bank, one of a large private collection, is inscribed, "I always did 'spise a mule". When you place a coin in the darky's mouth and press down a lever the mule rears, throwing the darky headfirst against the log. As his head strikes the log the coin is dislodged and falls into the bank through the slot.



## YOU CAN SAVE MONEY, TOO, WITH CYANAMID TSPP

Because of the potency of its action, Cyanamid Tetra Sodium Pyro Phosphate can be used sparingly in soaps and other detergents. A little goes a long way, and, therefore, it is a remarkably economical ingredient for imparting qualities most desired by customers—such as increased detergency, faster, better sudsing, cleaning and rinsing power, higher water softening and emulsifying action. In addition to its use in soap, it can be employed with economy and excellent results in the prepara-

tion of compounds for cleaning metals and painted surfaces, for products used in textile degumming and scouring, and for dairy cleaning compounds because of its powerful emulsifying effect on fatty materials. Samples, prices and further information on Cyanamid TSPP will be sent to you on request.

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K & M MAGNESIUM CARBONATE

K & M MAGNESIUM OXIDE  
MURIATIC ACID  
SULPHURIC ACID  
ZINC STEARATE  
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# Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

## Tall Oil Soaps

WITH the present conservation of natural fats and oils utilization of related materials becomes important. Until recently the soap industry has been wary of tall oil, the crude material recovered in the preparation of wood pulp. Its dark color, its disagreeable odor reminiscent of mercaptans, and its high content of unsaponifiable matter constitute the basis for this. However, since tall oil contains 45-60 per cent of fatty acids, 30-45 per cent of rosin acids, besides 7-11 per cent of unsaponifiable matter, it is a potential tonnage raw material for the preparation of soaps and related products.

The colored constituents, consisting chiefly of oxidation products of rosin acids, can be removed by treatment with benzine. If an excess of benzine is used a pitchy mass precipitates. The filtered benzine solution leaves a light-colored product after the solvent has been driven off, which no longer has the penetrating odor of the crude tall oil. By the simultaneous use of furfural the purification is further improved. Another method of purification is hydrogenation. Treatment with hydrogen in the presence of a catalyst gives a light-colored solid product which is nearly odorless and which can be used for making solid soap. The drawback to this is the large amount of hydrogen which is required. In the Scandina-

vian countries superheated steam is passed through the material under high vacuum in a continuous process. The oil is subjected to the high temperature for only a brief time so that formation of more unsaponifiable material is avoided. On cooling, most of the rosin acids crystallize in hard light yellow crystals easily separated from the distillate. The rosin-acid content can be reduced to 5 per cent or less by vacuum-distillation methods.

The fatty acids obtained by distillation contain besides oleic acid about the same amount of linoleic and linolenic acids. According to a German method the rosin- and fatty acids are esterified with ethylene glycol, glycerine or a similar alcohol, the esterification product split by the Twitchell process, and the free fatty acids distilled.

In Finland, an important producer of tall oil, soap is prepared by saponification of the tall oil with caustic soda solution of 35°Be. This gives a pasty mass with the characteristic odor of the oil. Solid soap is prepared by working up this mass with calcined soda ash, using up to 15 per cent of soda. Tall-oil soap has good foaming action and excellent emulsifying power. Heavy soil containing mineral oil, tar and soot is readily removed with tall-oil soap. It is therefore useful in garages, machine shops, printing shops, etc. for the cleaning of floors, since it has a

more efficient cleaning action than the usual paste soaps. In Finland it is also an article of commerce packed in tubes for use as a hand soap.

A method of removing odor given in Swedish Patent 69,751, is to mix the tall oil, warmed to 75°C., with 2 per cent of activated carbon, filter off the carbon, treat the oil with 3 per cent of 30 per cent hydrogen peroxide, and pass through the oil a jet of steam.

To prepare potash paste soap from tall oil, 8 parts of caustic potash are heated to boiling with 10 parts of water, and 20 parts of tall oil introduced in small portions. The soap prepared in this way is very viscid. When one dips a hand into the soap solution a certain stickiness is noticeable on the skin. This soap is particularly suitable for incorporation in polishing materials. Viscosity is reduced by the introduction of potassium chloride, or by use of linseed-oil fatty acids and soybean fatty acids with the tall oil.

For the preparation of curd soap 50 parts of hard fat, 20 parts of tall oil, 20 parts of coconut-oil fatty acids, and 10 parts of peanut-oil fatty acids are used. Saponification is with caustic soda, the soap being salted out. This gives a light brown soap of good lathering power and detergency, but with a tall-oil odor. By the addition of 2 per cent of soap bleach (Blankit) to the soap mass a light yellow, odorless soap can

be obtained. Up to 25 per cent of tall oil can be used in the production of an unobjectionable household soap. Toilet soap has been prepared from a stock of 53.7 per cent hard fat, 29 per cent tallow, 5.2 per cent rosin, and 12.1 per cent of purified tall oil. Tall-oil soap tends to discolor in storage but this can be prevented by addition of crystalline trisodium phosphate.

Tall oil can also be sulfonated to replace Turkey red oil. One hundred parts of tall oil are slowly treated with 25 parts of 60°Be. sulfuric acid and digested until the product gives a clear solution in water. It is then neutralized with alkali, ammonia or soda ash. The sulfonation product readily emulsifies mineral oils, tar oils, alcohols, phenolic esters etc., forming stable emulsions of these with water. Tall-oil sulfonates are not stable toward hard water, acids or salt solutions. Robert Strauss, *Deutsche Parfumerie-Ztg.* 25, 406-9 (1939).

### German Fat Conservation

Germany's fat conservation program involves (1) the production of synthetic fatty acids from hydrocarbons to supply up to 25 per cent of the requirements of the soap industry; (2) the recovery of every kind of fat and oil from natural sources such as fruit seeds, plum stones, cherry pits etc.; (3) hydrogenation of fish oils to produce edible fats; (4) complete fat splitting for glycerine recovery; (5) use of clay and inorganic substitutes in place of soap in washing powders; (6) complete recovery of garbage greases; (7) recovery of sewerage fat; (8) replacement of fatty oils by mineral oils in industrial use; (9) production of fat-free synthetic detergents; (10) use of rosin oils and sulfite waste in soaps; (11) installation of water-softening plants in all industrial centers; and (12) rationing of edible fats.

In view of this plan the great effort does not seem to be to replace soap by synthetic products so much as to conserve soap consumption indirectly. The relative simplicity and

low cost of soap manufacture insure its continued use. Henry Barker Burke, *Am. Dyestuff Reporter* 29, 65-8 (1940).

### The Twitchell Process

Objections to the use of fatty acids for soap making are that the introduction of a new process involves an addition to the soap plant and to the work already carried out. It is also contended that Twitchell fatty acids produce soap of inferior color, and that their use in the soap pan necessitates an alteration in the normal course of soap boiling.

However, the plant required is quite inexpensive, very simple in construction and can be quickly installed. The operation of the process calls for no skill or special training and only a reasonable amount of laboratory control. To a limited extent the adverse effect on color is true. This difficulty can be largely overcome by the use of one of the modern purified reagents in place of the original dark colored Twitchell reagent. The newer reagents are lighter in color and considerably more active so that a much smaller quantity can be employed. They are also more expensive. During the course of the operation the materials are very much subject to darkening by oxidation, but if special precautions are taken to exclude air, this can to a large extent be avoided. Before removing the acids from the treatment tank, the small amount of mineral acid they contain is neutralized with barium carbonate, and they are then practically unaffected by air. If in spite of these precautions the soap shows some darkening, a bleach in the pan with hypochlorite will usually correct this.

Soda ash should always be employed to neutralize the fatty acids as this reduces the alkali bill by about one half. This requires some alteration in technique, but the method employed offers no difficulty to a competent soap boiler. Spent lyes are of course run away and the salt in them lost but this is not really an important item. Economies in the other processes of the factory when

the Twitchell process is in use are such that expenditure for steam and labor may be disregarded.

The velocity of reaction varies according to the nature of the fat and within limits with the amount of reagent. With 1 per cent of reagent hardened whale oil reacted more readily than soybean oil. Medium palm oil reacted much more speedily with 1 per cent of reagent than with one-half per cent. If reaction seems unnecessarily slow during the first few hours, addition of a further quantity of reagent may put matters right during the remainder of the boil. J. H. Wigner, *Soap, Perfumery and Cosmetics* 12, 979-84, 992 (1939).

### Controlled Wool Scouring

A recently developed complete system of instrument control of wool scouring in otherwise conventional equipment is in successful use at the East Weymouth Wool Scouring Company, Mass. The new system includes means for recovery of wool grease and for the cleaning of scouring liquors during the operation so that relatively clean solutions are constantly in use.

A series of indicating and measuring instruments check various factors at frequent intervals which affect the scouring. All the instruments operate at from instantaneous to 15 minutes, no test requiring a longer period. Thus whatever changes are indicated can be made while the wool is still being scoured.

The scouring liquor is checked regularly to determine its content of grease, sediment, alkali, suint, bicarbonates, and free caustic soda. The wool is tested to determine the amounts of grease, soap and moisture which still remain in it. The recovered wool grease is tested to ascertain the percentage of water it contains. Grease and sediment are automatically removed from the contaminated scouring liquor and the clean soap, water and alkali are returned to the scouring bowls. The additional amount of wool grease which can be recovered is of importance. Howard P. Galloway, *Textile World* 90, 73-4 (1940).



# Titre of Rosin-Fatty Acid Mixtures

By W. D. Pohle\*

THE titre is the congealing point of the fatty acids separated from the fat and is one of the tests employed in evaluating the suitability of a fat for a given purpose. The titre of the fatty acids of a soap is often included in its specifications. Since the titre test is used in evaluating fats for the manufacture of soap, and since soaps are often evaluated by the titre of the fats they contain, information on the effect of rosin on the titre of fatty acids and the "equivalent" titre of rosin is frequently requested.

To procure this information, titre tests were made on three fatty acids, stearic, lauric, and oleic, and on mixtures containing three parts of one of these acids and one part of rosin acid, rosin or fatty acid. The materials were lauric, myristic, palmitic, stearic, and oleic acids, linseed oil, palm oil, and coconut oil acids, rosins from longleaf and from slash pine gums, oxidized rosin, hydrogenated rosin, and pyroabietic acid. The figures obtained are given in the following table. The method of determining titre was that accepted as official. (Official and Tentative Methods of Analysis of the Assoc. of Official Agr. Chem., Fourth Ed., 1935.)

\* Assistant chemist, Naval Stores Research Division, Bureau of Agricultural Chemistry and Engineering, U. S. Department of Agriculture.

The titre of rosin cannot be determined, since there is no break in the time-temperature curve when rosin passes from the liquid to the solid or congealing state.

Moreover, from the data in Table I, it is evident that the calculation of an equivalent titre for rosin is impossible, since the change in titre of a given fatty acid by the addition of a second component is not a function of the titre of the second component.

The addition of rosin to a given fatty acid lowers its titre; also, the addition of other fatty acids to stearic acid and lauric acid lowers their titre. Measurement of the titre of oleic acid was difficult. It would appear that there might be a relation between the titre of the mixed fatty acids of which oleic acid is one component and the titre of the added component.

At present the application of the titre test to fatty acid-rosin mixtures appears to be limited to mixtures for which the relation between the titre test and the factory results have previously been determined. The correlation between titre tests and factory results may vary from plant to plant due to the use of different raw materials and manufacturing methods.

Softening hard water by means of soap is a very expensive process as well as one very unsatisfactory in terms of results. For household purposes water-softening agents based on soda are very practical. The amount of agent to be used depends on the hardness of the water. One gram of soluble calcium salt in the water will convert 15 grams of curd soap into insoluble calcium soap. To put it another way 1 cubic meter of water of 10 degrees of hardness (German scale) will render worthless 1.5 kilograms of curd soap. The same amount of hardness in the same volume requires about 190 grams of soda ash. Soda ash should not be used in great excess since it might then diminish the foaming power of the soap, producing a tendency to salt the soap out. If the soil is acidic in nature more soda ash can be used because it then neutralizes the acidity.

Soda ash is not usually efficient as a water softener when used alone. Sodium silicate makes a good combination with it, also some phosphate. Water should be softened before the soap is added. Cold water may take 15-20 minutes for this while water warmed to 30°C. can be softened in about 2 minutes. A commercial product may contain about 6 parts of soda ash to 1 of sodium silicate, calculated on the anhydrous basis, and a small amount of phosphate. A. Foulon. *Seifenseider-Ztg.* 66, 870-1 (1939).

## Dry Shampoo

A basic formula for a so-called "dry" shampoo is as follows:

	Parts
Ammonia solution.....	3
Eau-de-Cologne compound.....	2
Denatured alcohol.....	45
Distilled water.....	50

*Soap, Perfumery and Cosmetics*, 12, 988 (1939).

TITRE OF FATTY ACIDS, MIXED FATTY ACIDS, AND FATTY ACID - ROSIN MIXTURES

Material Constituting 1 Part of Mixture	Fatty Acids Constituting 3 Parts of Mixture		
	Stearic	Lauric	Oleic
Slash Rosin .....	51.2	30.8	—2
Longleaf Rosin .....	51.4	31.0	—2
Oxidized Rosin .....	52.8	32.1	—2
Crystalline Gum Acids .....	51.0	...	...
Rosin from Liquid Portion of Gum.....	51.5	...	...
Pyroabietic Acid .....	51.3	31.2	—2
Hydrogenated Rosin .....	51.3	31.0	—2
Lauric Acid .....	48.3	35.7	5.2
Myristic Acid .....	48.8	29.7	15.0
Palmitic Acid .....	50.6	28.0	24.0
Stearic Acid .....	55.2	29.3	30.5
Oleic Acid .....	50.9	29.0	3.0
Linseed Oil Acids .....	51.4	29.1	14.0
Palm Oil Acids .....	51.0	...	22.8
Coconut Oil Acids .....	49.2	...	...



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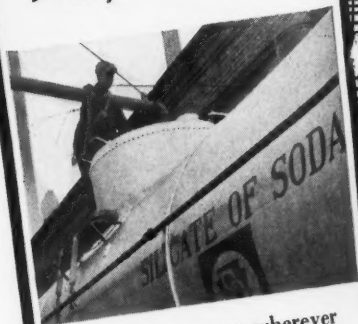
You get the *right* silicate for your use. Since the ratios of its constituents can be varied, sodium silicate is the name of a series of products. PQ has 33 grades for industrial applications. If new commercial processes need other grades, PQ, silicate specialists, can make them.

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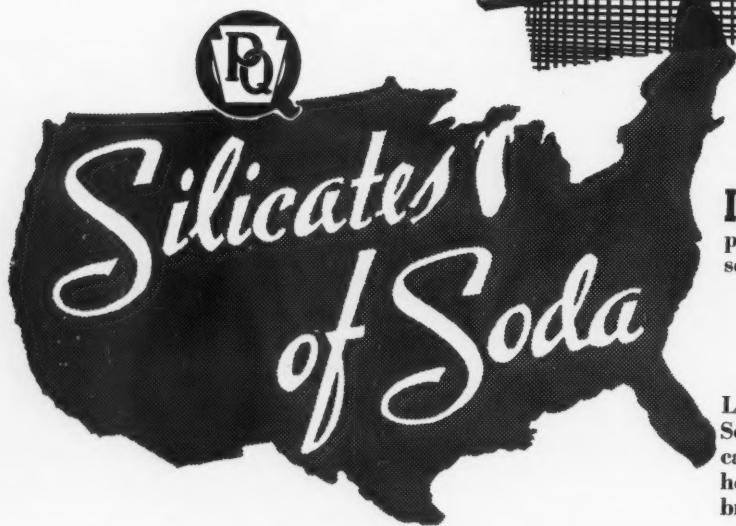


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Let's talk over how PQ Silicates of Soda (including sodium metasilicate and sodium sesquisilicate) can help you sell more of your own private brand detergents.

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Chicago Sales Office: Engineering Bldg. Sold in Canada by National Silicates Ltd., Toronto, Ont.

# Refining Fish Oils

EXPERIMENTS are reported on the purification and hardening of a seal oil containing 42 per cent of free fatty acids and 3.9 per cent of hydroxy acids. The oil can be partially purified by several hours' preliminary treatment with superheated steam in the presence of sulfuric acid, followed by treatment with fuller's earth. Deacidification was best accomplished by distillation of the fatty acids under reduced pressure. Distillation was begun at 200°C. and 70 mm. pressure and was continued at 2.5 mm. of mercury pressure while the bath temperature was increased at 290°C. In this way 30-36 per cent distilled over. The residual oil had an acid number of 7.15 instead of 85.

The oil could not be decolorized although hydrogen peroxide had some effect. By heating the raw oil with an excess of glycerine for 3.5 hours in a vacuum at 170-255°C. it could be almost completely esterified, (acid number 0.5-6). The esterified oil was readily refined with alkali and fuller's earth to give a yellow oil. The esterified oil also could be readily hydrogenated but not so satisfactorily as a fish oil of good quality. Oil esterified with glycol was more difficult to hydrogenate than that esterified with glycerine. Esterification and exchange of the ester radicals of the raw oil by boiling 4.5 hours with 2 volumes of alcohol and 10-30 per cent of sulfuric acid in 1 volume of alcohol gave a mixture of ethyl esters boiling at 160-200°C. The yield of distilled ethyl esters was 70-95 per cent of the oil. They contained 0.5-1.5 per cent of free fatty acids. The mixture of esters was a colorless liquid of pleasant odor which could be easily hydrogenated.

Hydrogenation of the crude fish oil was first carried out in the apparatus of Grun for the determination of hydrogen number, the oil being mixed with pure paraffin oil. Under these conditions the hydrogenation

of the crude acid fish oil proceeded more readily than that of the oil esterified with glycerine, while the neutralized oil without the addition of paraffin oil could be more readily hardened. The best results of hydrogenation were obtained with the distilled ethyl esters of the fatty acids of the oil.

While the catalyst was easily poisoned during hydrogenation and the addition of the hydrogen ceased long before complete saturation was reached, nevertheless it was possible to carry the hardening to any degree desired by adding nickel in amounts proportional to the degree of retardation of the velocity of hardening. By adding the nickel catalyst in portions the oil could be hardened with the use of 1.8-2 per cent of nickel from an iodine number of 160 to one of 60-70, the optimum temperature being 220-40°C. At a hydrogen pressure of 50-150 atmospheres the crude oil could be brought to an iodine number of 40-50 with the use of 0.8-1 per cent of nickel.

The hydrogenating action of a nickel formate catalyst was weaker than that of nickel kieselguhr. Nickel oleate was as active as nickel kieselguhr but was more sensitive to poisoning. Catalysts of nickel silicate, prepared according to Fokin, hydrogenated the crude oil slowly; nickel borate acted almost as rapidly as nickel kieselguhr. Cupric oxide hydrogenated the oil at 100 atmospheres and 250°C. but the oil was in part polymerized. S. B. Faerman. *Trans. State Inst. Applied Chem. (U.S.S.R.)* 31, 70-84; through Chem. Abs.

## Sulfonated Oil Emulsifier

Excellent disinfectants and insecticides may be produced with the aid of second-grade sulfonated oils. Such products usually exhibit increased uniformity and stability as compared with soap emulsions. They are also in an extremely fine state of dispersion, a factor that tends to increase their effectiveness from the

germicidal and insecticidal point of view. The use of Turkey red oil as an emulsifying agent and spreader for insecticides is demonstrated by the following basic formula:

Pyrethrum extract, 15% in acetone ..... 10 kg.  
Derris extract in acetone, containing 8% of rotenone..... 10 kg.  
Neutral Turkey red oil..... 80 kg.  
This is used in 1 per cent aqueous dilution.

Active antiseptics consisting of essential oils, isolates and synthetics can also be emulsified in water with the aid of second-grade Turkey red oil, as in the following:

	Per Cent
Titree oil.....	8
Thymol.....	5
Cinnamon leaf oil.....	3
Sassafras oil.....	2
Origanum oil.....	1
Clove oil.....	1
Sulfonated oil.....	50
Water.....	30
George S. Collingridge. <i>Chem. Age</i> 42, 17-19 (1940).	

## Purifying Animal Fats

Oleo oil is extracted from crude animal fat by heating the fat to 75°C., exactly neutralizing the free fatty acid with alkali and removing the saponified product by spraying with hot brine. The neutral fat is run into a crystallizing tank maintained at 30-50°C. when steam separates and is removed through a filter by suction. Emil Andersen-Orris. British Patent No. 506,968.

## Monel Metal

Tabulated data show the excellent resistance of Monel metal to corrosion by fatty acids, caustic solution, sulfuric acid, and fats. Since Monel also has very high mechanical strength and good weldability, it is very desirable as a material for construction in the oil and fat industry. R. Muller. *Fette und Seifen* 46, 346-8 (1939).

## Soap Grease

A soda soap grease contains a viscous mineral oil, a soda soap and a minor proportion of an organic salt such as sodium salicylate. Shell Development Co. Canadian Patent No. 386,507.

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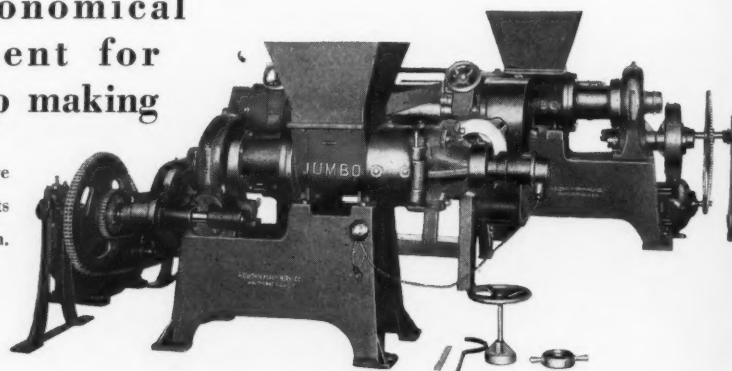
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# Alkali Determination

A NEW method using barium naphthenate is very useful for the determination of very small amounts of free caustic alkali in soap as distinguished from alkali present as carbonate. The method is not reliable in the presence of more than 7 per cent of sodium carbonate.

One gram of soap containing 50 per cent of moisture is dissolved in a mixture of 20 cc. of neutral, pure ethyl alcohol and 10 cc. of cyclohexane. With soaps having a higher content of moisture, 30 cc. of alcohol and 15 cc. of cyclohexane are used. When solution is complete the liquid is cooled to 25° C., 5 cc. of a neutral barium naphthenate solution added, the flask shaken for a few seconds and then the solution titrated immediately with 0.1 normal alcoholic hydrochloric acid, using phenolphthalein as an indicator. A 100-cc. wide-necked flask is used with a cork stopper and a reflux tube 1 meter in height. A blank may be run with 30 cc. of the alcohol-cyclohexane mixture and 5 cc. of barium naphthenate solution.

An advantage of the method is titration at room temperature which is necessary with this solvent to prevent hydrolysis. Carbonate is precipitated with barium naphthenate without interference from the formation of a large amount of barium soap. Barium soap will form, but not immediately. When it does form it is in relatively small amounts and in a state of fine particle size.

The only unusual chemical is the barium naphthenate, which may be prepared as follows: Technical naphthenic acid is saponified with caustic potash and extracted with petroleum ether. The soap is split with hydrochloric acid, the naphthenic acid washed free from mineral acid and distilled *in vacuo*. The light yellow distillate with a saponification number of 245 is again saponified hot in aqueous solution with caustic potash to the neutralization point, precipitated with hot aqueous barium

chloride solution in excess and washed immediately several times with hot distilled water. The mass is kneaded with a broad wooden ladle and heated again to the boiling point of water. As soon as the wash water is completely free of chloride the barium naphthenate is heated as carefully as possible in a vacuum oven until completely dry. It is dissolved hot in five times the amount of cyclohexane and kept in a stopped flask where it sets to a jelly. Shortly before use an equal amount of ethyl alcohol is poured on the jelly and the mixture warmed. It is neutralized with 0.5 normal alcoholic potassium hydroxide and is then ready for use. C. Bauschinger. *Fette und Seifen* 46, 671-2 (1939).

## Protective Action of Silicate

Sodium silicate used as a soap builder has a protective action against the formation of heavy-metal soaps which might cause flecks on the material being washed. Hot soap solution sometimes dissolves a small amount of metal from containers of such material, such as iron, copper, etc. Sodium silicate also gives a degree of alkalinity favorable to the cleaning action of soap. Used with bleaching agents such as sodium perborate the silicate has a stabilizing action on the oxygen-producing material preventing too rapid decomposition and irregular bleaching action. The protective action of silicate is largely due to its colloidal nature. A. Foulon. *Allgemeine Oel- und Fett-Ztg.* 36, 452-5 (1939).

## Free Alkali Determination

The following general method for the determination of total free alkali in soap is also applicable to soaps containing sodium hyposulfite or calcium carbonate. Dissolve 10 grams of soap in 100 cc. of neutral 80 per cent alcohol with constant stirring, on a water bath or over a small flame. The alcohol should contain a known amount of fatty acids of known molecular weight. The

quantity of fatty acids depends somewhat on the nature of the soap sample. For an especially pure soap containing 72 per cent of fatty acids, addition of 1 gram of fatty acid is sufficient, corresponding to about 3.5 cc. of a Normal solution.

After solution is complete, free fatty acids are titrated back. If  $n_1$  equals the cc. of Normal alkali required for the titration and  $n$  equals the cc. of Normal alkali required for the original neutralization of the fatty acids used,  $n - n_1$  equals the cc. of total free alkali in the sample. H. P. Kaufmann. *Fette und Seifen* 46, 517 (1939).

## Higher Alcohols with Zinc

Zinc dust was the best catalyzer for the preparation of unsaturated higher alcohols by hydrogenation of oil under high pressure. When perilla oil was heated at 320°C. under 125 atmospheres for 2 hours, the maximum yield was obtained. A large amount of linoleyl alcohols was obtained from the reaction product.

When methyl esters of fatty acids or oils were hydrogenated, the formation of unsaturated higher alcohols increased. It may be that the zinc dust was activated by methyl alcohol. When 2 molecules of methyl alcohol and more were added to 1 molecule of soybean oil the reaction was accelerated. This phenomenon was specific for zinc dust catalyzer; the action of methyl alcohol was the opposite for other catalysts. While methyl alcohol and ethyl alcohol accelerated zinc dust, other aliphatic alcohols had the opposite effect. When methyl alcohol was added to zinc dust catalyst the yield of unsaturated alcohol was 80-90 per cent. Yuiti Sinozki and Sizuo Sumi. *J. Agr. Chem. Soc. Japan* 15, 531-6 (1939).

## Perspiration Preventive

Toilet soaps are rendered perspiration preventing by adding chromium trioxide and hexamethylene tetramine. Aluminum acetate may also be added. Ervin Pick. British Patent No. 506,903.





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# Products and Processes

## Floating Soap

A buoyant cake of soap consists of a shell produced from a tubular bar section with opposite ends closed by lateral and longitudinal pressure, forming a sealed hollow structure. The pressure of the end closing causes the opposite sides of the soap cake to bulge outward to a curved shape. R. A. Jones. Canadian Patent No. 386,422.

## Paste Hand Soap

Paste hand soap can be made with a fatty acid content not exceeding 5 per cent. A suitable composition is as follows: 15 parts of paste soap containing about 35 per cent of fatty acids are dissolved in 30 parts of water, 5 parts of denatured alcohol and 3 parts of acetone. Into the solution is worked a mixture of 3 parts of soft sawdust, 3 parts of colloidal clay, 9 parts of ground quartz or fine pumice until a homogeneous paste is obtained. The product is perfumed with 0.1 part of thymol which also has disinfectant action. *Seifensieder-Ztg.* 66, 882 (1939).

## Wetting Agent

The products obtained by esterifying low molecular-weight monohydric aliphatic alcohols containing up to 8 carbon atoms, with the sulfuric esters of unsaturated fatty acids are used as wetting agents in the form of their ammonium salts. Examples include the ammonium salt of hydroxystearic sulfuric acid isopropyl ester, the ammonium salt of the product from butyl alcohol and castor oil fatty acids, and the ammonium salt of ricinoleic sulfuric acid butyl ester. Bohme Fettchemie-G.m.b.H. German Patent No. 676,528.

## Cleansing Agent

Products having cleansing and foaming properties are obtained by heating to about 100-220°C., so far as possible in the absence of water, a salt of an aliphatic haloalkylsulfonic acid containing at least 3 carbon atoms with an imidazoline having at least 10 carbon atoms. The imidazoline bases may be liberated from their salts by the addition of anhydrous sodium acetate or anhydrous alkaline salts such as calcined soda ash, borax or trisodium phosphate. Edmund Waldmann and August Chwala. British Patent No. 507,766.

— • —

## Soap Saving

A great saving in soap in terms of total fatty acids can be effected in the commercial laundry by using soap for the first two suds and sodium alkyl sulfate for the last, or by combining sodium alkyl sulfate with soap. E. Walter. *Fette und Seifen* 46, 729-33 (1939).

## Alkyl Borates in Soap

Triethyl borate and tributyl borate are new solvents being examined by soap manufacturers anxious to exploit their antiseptic properties. Both solvents deposit boric acid in finely divided crystalline form when added to soap. Their incorporation seems a rather costly way of adding boric acid which could be easily mixed in with soap in the usual way. *Am. Perfumer* 40, No. 1, 58, (1940).

## Emulsifying Powder

The detergent action of soap is sometimes attributed in part to the saponification of fat in the soil by hydrolysis alkali. However, such hydrolytically dissociated alkali is not sufficient to saponify neutral fats. Emulsifying power plays an important part in detergency and this depends on the constitution of the soap. Oleates and linoleates have especially good emulsifying properties, they also absorb water into their inner structure in colloidal solution. With the lower fatty acids a small rise in temperature is sufficient to destroy their

emulsifying power because the colloidal solution changes to a true solution. The sodium soaps of the higher fatty acids such as stearic are "emulsoids" at somewhat elevated temperatures but when the temperature exceeds a certain maximum the emulsion is destroyed. J. Davidsohn and A. Davidsohn. *Am. Dyestuff Reporter* 29, 43-6 (1940).

## Hydrocarbon Soaps

The many methods which have been proposed for the production of fatty acids, fatty alcohols and wax esters from hydrocarbons can be classified into five groups: (1) Oxidation of unsaturated hydrocarbons by means of atomic and molecular oxygen; (2) Oxidation of unsaturated hydrocarbons by means of ozone; (3) A combination of olefine formation and oxidation; (4) Oxidation of saturated hydrocarbons by means of combined oxygen; (5) Oxidation of saturated hydrocarbons by means of molecular oxygen. A review of the methods under each heading is accompanied by a bibliography of 62 references. *Reichstoffindustrie* 14, 191-5 (1939).

## Myristic Fats

The component fatty acids of the kernel fat of *Virola* nuts were found to be mainly myristic 73 per cent, and lauric 15 per cent by weight, the remainder being palmitic and oleic acids in approximately equal proportions.

The chief fatty acids in the kernel fat of *Pycnanthus Kombo* were myristic 62 per cent, and myristoleic acid 24 per cent. The latter acid which occurs in small proportions in most fats from aquatic sources and also in cow milk fat, has not been observed previously in a seed fat, and its presence as a substantial component in *P. Kombo* seed fat is most unusual.

Both fats had a high free acidity, the unsaturation of which was greater than that of the component fatty acids of the glycerides. D. Atherton and M. L. Meara. *J. Soc. Chem. Ind.* 58, 353-7 (1939).

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## 675—New Fay Floor Machine

The Fay Co., New York, is in production on a new model, heavy duty electric floor machine which weighs 130 pounds and has an 18-



inch brush. The machine, known as the "Standard" model, is claimed to do fast intensive work on floor areas from 10,000 to 15,000 square feet, and can also be used to advantage on smaller floor areas. Interchangeable attachments are said to make the machine adaptable for every sort of work on every type of floor or floor covering.

## 676—New pH Tester

Wilkens-Anderson Co., distributor of pH testing equipment, is now marketing a new low-priced Cameron pH meter, known as the "One-Two Tester." It operates with a glass electrode and is said to be accurate for a wide range of testing. The instrument is adapted so it may be transferred from one department to another without inconvenience. Literature is available.

## 677—New Spraying Unit

Electric Sprayit Co., Sheboygan, Wis., has recently introduced a new insecticide spraying unit, known as the "Sprayit Model DIS." The unit is said to be suitable for both permeation and direct contact insecticide spraying, and may be adapted for paint spraying also. The compressor and motor, together with the container and automatic switch control, are mounted compactly on a sheet steel base, fitted with four rubber casters.

## 678—New Mixer and Blender

L. O. Koven & Bros., Inc., Jersey City, N. J., are in production on a new special blender, 6 feet long, 3 feet wide and 3 feet deep. A motor driven stainless steel double spiral agitator is said to provide complete dispersion of the ingredients and blending to produce a completely homogenous mixture. A feature of the machine is said to be a pair of semi-circular racks on which barrels or drums can be placed for drainage into the tank.

## 679—Drum Carrier Folder

Charles K. Ernst, Inc., iron specialties, Buffalo, has just issued a new folder on its "Ernst Magic" drum and barrel carriers. Several illustrations show different models of the equipment while other illustrations show the carriers in operation. Copies are available.

## 681—Du Pont Emulsion Booklet

The Fine Chemicals Division, E. I. du Pont de Nemours & Co., Wilmington, Del., has just issued a new booklet entitled "Emulsifying with the Fatty Alcohol Sulfates." It contains a discussion of emulsions and the characteristics of the company's "Duponol" alcohol emulsifying agents. Sections of the book are devoted to solvent emulsions, oil emulsions, wax emulsions and special emulsions and sprays. Formulas for

the preparation of pine oil, benzene, kerosene, soluble oils, palm oil and wood oil emulsions are a few among many given. Formulae for other emulsions include carnauba wax, dry bright floor polishes, resin emulsions, mosquito control sprays and leather polishes.

## 680—New Floor Material

Flexrock Co., Philadelphia, has just issued a new folder on its new product "Colorflex," a pigmented resin which is said to penetrate concrete floors without injuring them and which will also preserve wood floors. The first coat is claimed to penetrate, and the second coat to present a hard, enamel-like finish which will withstand industrial traffic. The company also claims that the new product will cure dusting concrete.

## 682—New Packaging Portfolio

Hinde & Dauch Paper Co., Sandusky, O., has just issued a new portfolio entitled "Close-Ups of Successful Corrugated Boxes." Various boxes are illustrated and described on full page inserts held in two pockets of the portfolio. Each package illustrated carries a case study, with brief comments on type, size, design and use.

## Barton Resigns As NOPCO Pres.

John H. Barton recently resigned as president of National Oil Products Co., Harrison, N. J. He started with the company twenty years ago as a salesman, and before his election to the presidency in 1938, held other executive posts including sales manager of the farm seed division and vice-president in charge of plant construction and maintenance.

## New Alkaline Detergent

Chase & Hale, Inc., St. Paul, Minn., are marketing a "Blue Tag" tin and aluminum alkaline cleanser which is said to be perfectly soluble in hot or cold water. They claim that the cleanser does not corrode tin, tinplate or aluminum or harm these metals in any way. Literature describing the material is available.



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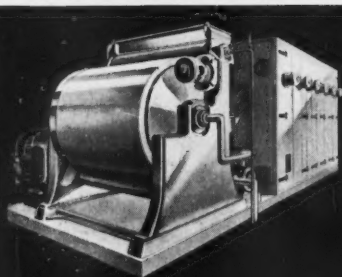
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No. 2,185,255. Shaving Composition, Patented January 2, 1940 by Hugo Kroper, Hamburg, and Erich Thomae, Stuttgart, Germany, assignors to the firm: Chemische Fabrik Promonta G.m.b.H., Hamburg, Germany. A saponaceous shaving preparation containing a hemostatic lipid-soluble substance which has been derived from soy-beans by dissolving constituents of the soy-beans in a water-immiscible fat solvent from the group consisting of petroleum ether, ether, benzene and benzol, adding a water miscible fat solvent from the group consisting of ethyl alcohol and acetone to the solution, and recovering the lipid-soluble substance from the resulting materials.

No. 2,186,017. Cleaning Composition, Patented January 9, 1940 by Charles J. Geng, Nutley, N. J., assignor to Wilson-Imperial Company, Newark, N. J. A cleaning composition for stainless steel and rustless iron surfaces containing phosphoric acid and an extractive detergent selected from the group consisting of orthodichlorobenzol and methyl iso butyl ketone.

No. 2,187,536. Detergent Composition Simulating Olive Oil Soaps, Patented January 16, 1940 by Souren Z. Avedikian, New York, N. Y. An alkaline detergent composition giving a solution of substantially constant pH comprising a strongly alkaline substance of the group consisting of trisodium phosphate and sodium carbonate buffered with a mixture of disodium phosphate and borax in substantially the ratio of 1:1.

No. 2,188,140. Cleaning Preparation, Patented January 23, 1940 by Arthur J. Widmer, Webster Groves,

Mo., assignor, by mesne assignments, of forty-two one-hundredths to Mary Elizabeth Widmer, Mexico, Mo. A cleaning preparation of substantially dry materials consisting mainly of crushed limestone particles of which upwards of fifty per cent by weight are small enough to pass a No. 325 U. S. Bureau of Standards sieve, from five per cent to thirty-five per cent by weight of the particles being too large to pass a No. 200 U. S. Bureau of Standards sieve, the remainder of the particles being small enough to pass the No. 200 sieve and large enough to be retained on the No. 325 sieve.

No. 2,188,734. Selective Herbicide, Patented January 30, 1940 by Thomas S. Carswell, Glendale, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo. A herbicide comprising a substance selected from the group consisting of pentachlorophenol, tetrachlorinated benzene hydrocarbons substituted in the aromatic nucleus by a hydroxyl group, and alkali-metal salts thereof.

## Deformation Modulus of Soaps

Plastic deformation of toilet soaps was measured at room temperature under loads of 0.5, 1 and 2 kg. The modulus decreases as the load increases. Introducing kaolin into the soap increases the modulus. At 35-65° C. the modulus decreases somewhat. In general, for a soap with an ordinary moisture content of 12-14 per cent under ordinary conditions, the modulus is about 0.28-0.30, but with a high moisture content, or when kaolin or waterglass is added, the modulus may be as high as 0.35. Heat and high loads, on the other hand, give a low modulus, as of 0.17 at 60° C. under a 2 kg. load. B. Tyutyunikov and A. Girshman. *Masloboino Zhirove Delo* 1939, No. 2. 22-5; through Chem. Abs.

## Soap Micelles

A study of x-ray absorption of various soap solutions shows that at concentrations of 0.1 normal sodium tetradecyl sulfate, solution, and 0.2-0.25 normal sodium laurate solution, large colloidal particles or large micelles appear. The structure of these large micelles corre-

sponds to that of liquid crystals, showing that the micelle consists of a system of soap-water. The water molecules are arranged between the polar groups of the soap molecules, as shown by x-ray investigations. These results bridge over the contradictions between the results and theories of Hartley on the one hand and McBain, Thiessen and others on the other hand. The formation of large micelles explains the minima in the conductivity curves of soap solutions, as well as their osmotic properties. Joachim Stauff. *Kolloid Z.* 89, 224-33 (1939).

## Soap Perfumery

There has been a tendency to standardize the cheaper types of toilet soaps and to narrow the choice of the buyer, mass production being the order of the day. This leaves little room for the application of the perfumer's art, as the distinctiveness of the perfume is not regarded nowadays as the main consideration in the soap works. A wider choice is found in the higher-priced soaps made for the cosmetic houses, but the sale of these is naturally smaller.

The theory that anything is good enough for soap has been exploded. Most essential oils and synthetics have to pass stringent tests of purity before being bought for this purpose. The startling improvement in the quality of many so-called 100 per cent synthetics and the great reduction in their prices, is directly due to their adoption for mass-produced soaps. One of the difficulties in the use of new synthetics in soap is the necessity to test for skin irritation and possible discoloration of the soap. The latter test is fairly generally made, but more care needs to be expended on the effects on the skin. Frank H. Sedgwick. *Soap, Perfumery and Cosmetics* 12, 969-70 (1939).

## Acid Detergent

A mildly acid detergent of good lathering and cleansing properties is formed of boric acid, which serves as a binder, and the sodium salt of the acid sulfuric ester of technical lauryl alcohol. Wm. G. Beckers. U. S. Patent No. 2,169,829.

## Shaving Cream

A high-grade shaving cream contains the following: 28 parts of amorphous stearin, titer 53/55°C., 8 parts of Cochin coconut oil, 15 to 50° caustic potash, 6 of pure glycerine, sp. gr. 1.23, 3 of triethanolamine oleate, and 40 parts of water. *Seifensieder-Ztg.* 66, 852 (1939).

## Oil and Fat Refining

(From Page 25)

can be made in this way (apart from the saving in space) by the use of such a continuous plant.

In addition to the continuous refining processes, there have been several recent developments which ultimately may radically alter present-day technique. Thus it is practicable to remove the free fatty acid present in crude oils by treatment with alcohols, whereby they are converted into esters. Ethyl alcohol may be used or the higher alcohols such as ethylene glycol or glycerol. The reconstitution of the glycerides in this way is of course a very satisfactory method of de-acidification if it can be successfully carried out, and amounts in effect to the synthesis of fats. A catalyst may be used to accelerate the reaction. Among preferred substances used as catalysts are various aromatic sulfonic acids such as beta-naphthalene sulfonic acid in small amount, or the Twitchell reagents.

The fatty acid is converted into a mixture of mono-, di- and triglycerides, but the respective proportions of these produced are dependent on the conditions prevailing during the esterification process. Generally, a temperature of 170°-180° C. is used, the fat being heated with about 10 times the quantity of free fatty acid estimated to be present. Increase of temperature and the presence of catalysts together with a reduction in the amount of glycerol used tend to favor the formation of the higher glycerides, produced at the expense of the monoglycerides. The acid value can be substantially reduced, although it is often not practicable to obtain a completely neutral fat in this way.

A recently patented method

proposes the passage of the crude fat over particles coated with alkaline oxides or hydroxides. Zinc dust may also be used. The alkaline particles are floated on the surface of the oil by means of a gauze and when removed they take the resulting soaps with them. Temperatures up to 150° C. are used and it is claimed that a degree of bleaching is also effected by adsorption onto the alkaline materials.

(To Be Concluded)

## Rancidity Prevention

Oxidation in animal and vegetable fats and oils is retarded by adding a quantity of a fraction taken from the first 20 per cent of the distillate obtained by high-vacuum short-path distillation of vegetable oils or raw materials which possess antioxidant properties isolated in this fraction. The materials may be seeds, nuts etc. from which the oils are derived, without hydrogenation. The process is particularly applicable to the treatment of lard, olive oil and refined natural fats. The antioxidant may be derived from corn, soybean, cottonseed, wheat germ or apricot kernel oils. The antioxidant may before use be concentrated and purified by redistillation under vacuum and may be purified by means of absorption agents or nondestructive chemical treatment. Eastman Kodak Co. British Patent No. 507,471.

## Alkyl Sulfates from Kerosene

Kerosene boiling at 95-100°C. was chlorinated to yield 80-90 per cent of the monochlorides. The chlorides were changed to alcohols with a yield of about 30 per cent, the remainder of the chlorides forming unsaturates. The alcohols were converted to the corresponding sodium alkyl sulfates. The 2-, 3-, 4-, 5-, and 6-dodecanols were prepared, the 4- and 5-dodecanols probably for the first time, and the corresponding sodium alkyl sulfates were obtained from them. Sodium lauryl sulfate was prepared from 1-dodecanol.

The sodium alkyl sulfates were compared as to general detergent

value by means of a foam test and an interfacial tension test. The tests indicate that the foam value and the ability to lower the interfacial tension for a given chain decreases progressively from a maximum for the primary to a minimum for a symmetrical secondary sodium alkyl sulfate. The sodium alkyl sulfates obtained from kerosene appear to be inferior to similar compounds with a terminal polar group when measured by these tests. A. R. Padgett and E. F. Degering. *Ind. Eng. Chemistry* 32, 204-8 (1940).

## Laboratory Soap Boiling

Soap boiling in a pilot plant using 200-5000 gallon steel kettles in order to secure data or products which might be applied to full kettle operations have as a rule been unsuccessful. With many unfavorable results on this scale it has been generally assumed that experiments on a very small scale in laboratory glassware could only be valueless, if not actually misleading. As a matter of fact the chemical results of the best large plant operations may be duplicated consistently in a glass cone as small as 750 cc. capacity, using 100 grams of fat. During saponification the glass cone is placed in a larger glass vessel which serves as a boiling-water bath, while steam is introduced into the bottom of the cone by means of glass tubing. In this way the changes can be observed as they take place in the reaction vessel, both during saponification and during subsequent graining of the soap. Spent lye is drawn off by suction through the tube used for the introduction of steam. Robert E. Divine. *Oil & Soap* 17, 2-4 (1940).

## Wax Saponification Value

The difficulty in obtaining the saponification value of a wax such as montan or carnauba is overcome by the addition of 10 cc. of toluene to dissolve 2 grams of the wax and by heating under reflux with 25 cc. of 0.7 Normal potassium hydroxide in ethyl alcohol. Merlin Wand. *Chemist Analyst* 28, 53-4 (1939).

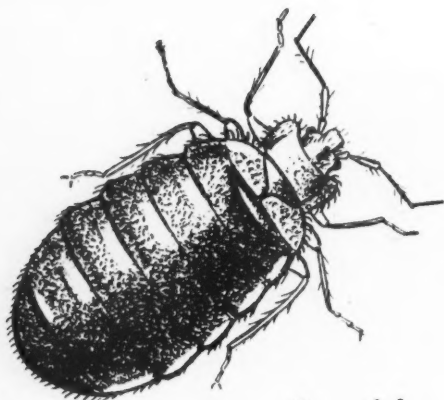


# Sanitary Products SECTION

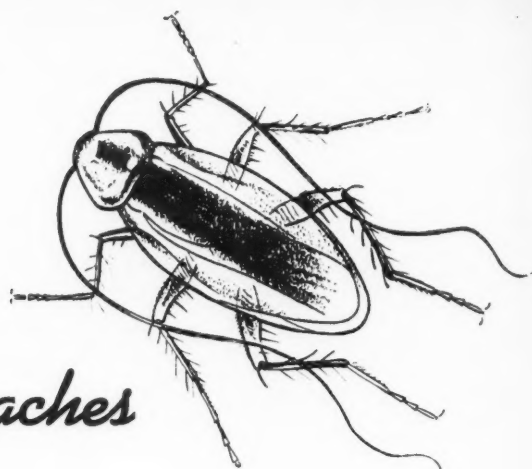
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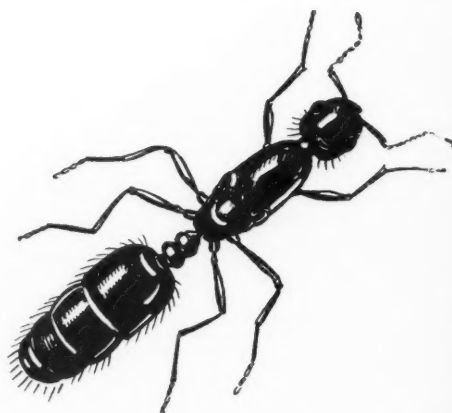
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6.3% Pyrethrum concentrate containing 2 grams Pyrethrins per 100 cc. ....	94

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*Available March 15 . . .*

**S**UPPLIES of 1940 Official Test Insecticide (O.T.I.) will be available March 15, 1940. Supplies of 1939 O.T.I. on hand in laboratories may be used until April 1, 1940. Thereafter, as previously announced, the use of 1939 O.T.I. will not be valid for the evaluation of commercial insect sprays by the official Peet-Grady Method of the National Association of Insecticide & Disinfectant Manufacturers.

Orders for 1940 O.T.I. should be sent to the Association office and shipment of the material will be made immediately it is available. The use of 1940 O.T.I. will be official from April 1, 1940 to April 1, 1941.



*National Association of  
Insecticide & Disinfectant Manufacturers, Inc.*  
110 East 42nd Street New York

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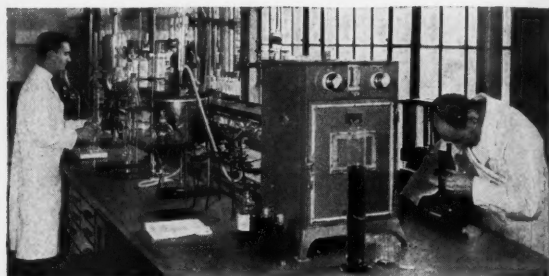
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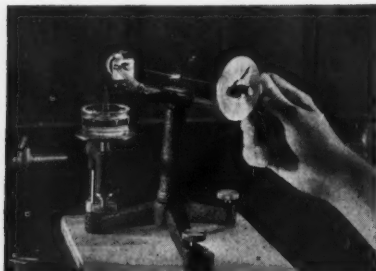
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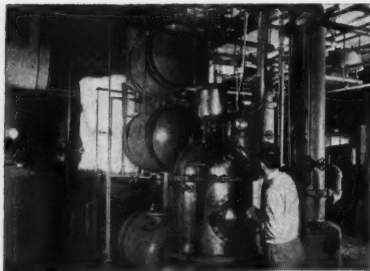
They help portray McCormick's Methods which assure you of **Finer Pyrethrum and Derris Insecticides**



**Tests**—Analytical section of the great McCormick laboratories where, among other daily tests of insecticides, chemical assay of pyrethrum flowers is made by the Gnadinger and Corl and H. A. Siel methods.



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**Unique** in laboratory equipment is this Campbell Turntable which facilitates the making of comparative insect-killing tests of several liquid insecticides at one time.



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**Bug's-Eye View** of the great McCormick Building in Baltimore. Within this structure's 12½ acres of floor space is the most modern equipment for the manufacture and testing of insecticides. Nowhere in the world will you find Pyrethrum and Derris powders which are ground finer than those produced by McCormick.

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**Pyrethrum Powder**      **Derris Powder**  
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Gentlemen: Please send me a copy of the Solvay Products Book, which gives complete information on all Solvay Products.

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AJ-340



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*Cresol  
Cresylic Acid*

## TAR ACID OILS

**CRESOL**—U.S.P. with very close cut distillation range and light color, for pharmaceutical purposes—Meta-Para Cresol with high meta cresol content—Resin cresols close cut to wide boiling with guaranteed meta cresol contents and clean odor.

**CRESYLIC ACID**—Many distillation ranges appropriate for all established uses—pale color—clean odor—total impurities besides water not exceeding one half of one per cent.

**TAR ACID OILS**—Frozen crystal free at 0°C.—good emulsion-forming properties—low benzophenol content—appropriate for low to high coefficients with tar acid contents as required.

**KOPPERS COMPANY, Pittsburgh, Pa.**

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OF NEW JERSEY, INC.,  
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Crushed, Crystals, Powder, Lump, Chips, Flakes. For use in manufacture of deodorizing blocks, moth preventives and other insecticides. Also Naphthalene in Balls, Blocks, Tablets.

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Pressed Naphthalene or Paradichlorobenzene. Various sizes and shapes. Perfumed and plain. Bulk industrial packages, retail packages.  
Write to Kearny, N. J.

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**PYRETHRUM**

**PRINCIPLES**

*Write to  
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### *Guarantees*

**M**OST pyrethrum concentrates are guaranteed to contain 2.0 grams Pyrethrins per 100 c.c. Ours is sold on this basis.

However, a guarantee must be analyzed before its true value becomes apparent. In addition to total content guarantee, the percentage of Pyrethrins I compared to Pyrethrins II is a factor to be considered. Tests have indicated that No. I has higher value than No. II; our Clarified Pyrethrum Concentrate No. 20 contains more Pyrethrins I than Pyrethrins II—most Extracts do not.

**R. J. PRENTISS & CO., INC.**

**NEW YORK**

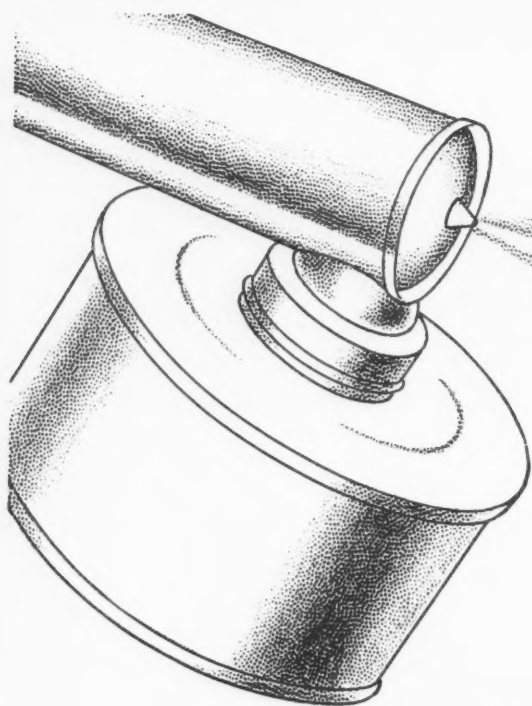
**CHICAGO**

*Derris*

*Pyrethrum*

*Cube*





**get that extra kick  
for 1940**

No matter what type of spray you are planning for 1940, it will pay you to consider D.H.S. Activator.\*

D.H.S. Activator increases knockdown and killing power of sprays containing pyrethrins and rotenones. This means an extra kick at lower cost.

Because D.H.S. Activator is miscible with all ingredients used in liquid insecticides and sprays, its advan-

tages are available for many fly-spray combinations.

We invite you to take advantage of the research that Hercules has done in this field with various grades of sprays made from many combinations of toxic ingredients. Ask for information on D.H.S.

Activator as applied to the combinations you have in mind. *Get that extra kick for 1940.*



**HERCULES NAVAL STORES**  
**HERCULES POWDER COMPANY**

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\*Reg. U. S. Pat. Off.  
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**Kerex**

**PERFUMES MAKE  
BETTER FLY SPRAYS**

*It Costs You Less Than 1c Per Gallon of  
Spray to Use These Correct Perfumes!*

You, the manufacturer of insecticide sprays, realize the importance of correctly neutralizing and perfuming your products.

Years of research in Felton Laboratories and thousands of practical tests have resulted in an outstanding line of perfumes (Kerex Series) for use both in pyrethrum base sprays or with the newer synthetic bases or combinations.

These four Kerex Perfumes are most economical to use, and assure you of definite advantages in the successful marketing of your insecticide sprays.

**KEREX BOUQUET**

A floral odor of proven merit.

**KEREX L'ORIENT**

A sweet vanilla fragrance.

**KEREX M**

A clean, "outdoor" scent.

**KEREX II**

for sprays using the new synthetic insecticides.  
KEREX II has been perfected in collaboration  
with the manufacturers of synthetic insecticides  
and is the ideal product for the purpose.

SEND US A SAMPLE OF YOUR UNPERFUMED SPRAY SO  
THAT OUR LABORATORIES CAN RECOMMEND THE  
MOST ADVANTAGEOUS PERFUME FOR YOUR PRODUCT.



**FELTON**  
CHEMICAL COMPANY, INC.

603 Johnson Ave., Brooklyn, N. Y.



*More than* **LUCK**  
...makes

## TOPFLIGHT Containers!

*It takes more than mere machinery to start a Package sensation too! ★ Winning Packages rise out of Vision, Experience, Ingenuity plus a finger on the pulse of Style. ★ "NATIONAL" Container Service features the expert touch, the highlights of utility and magnetic display . . in fact, all it takes to reach *Container Supremacy!**



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A NUMBER  
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*Neutralizer*

No. **801**



*Makes An  
Unperfumed Spray*

**A**N instantaneous success—this newest addition to the MM&R line of perfuming agents for insecticides. Used in the proportion of 1 oz. to 16 gal. of spray it is singularly effective as a neutralizer, covering kerosene and toxic ingredient odors. The result is an unperfumed spray without any perceptible odor. Cost  $\frac{3}{4}$ c per gallon of spray.

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**Neutralizer  
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Combination odor neutralizer and perfume. It is designed for, and is equally effective with the new Lethane 384 Special, Pyrin, Pyrethrum and other commonly used toxic agents. It covers both the toxic ingredient and any oil odor that may be present and leaves a pleasant but not lasting odor when sprayed. The cost of Neutralizer No. 202, when used in the recommended proportion of 1 oz. to 8-16 gallons, is approx.....  $\frac{3}{4}$  to 1 and  $\frac{1}{2}$ c per gallon

M M & R invites you to write for further details and testing samples.

**MAGNUS, MABEE & REYNARD, INC.**

QUALITY ESSENTIAL OILS, BALSAMS

AROMATIC CHEMICALS, ETC. SINCE 1895

**16 DESBROSSES ST.**



**NEW YORK, N. Y.**

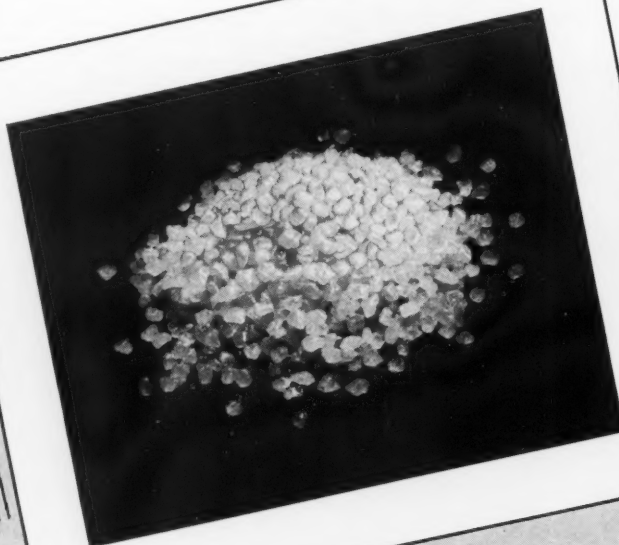
CHICAGO: 180 N. WACKER DRIVE . . . CANADA: RICHARDSON AGENCIES, LTD., 454 KING ST., W. TORONTO

March, 1940

Say you saw it in SOAP!

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UNIFORMITY OF**

**Paradow**  
**MAKES IT A THOROUGHLY  
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PARADOW\* (paradichlorbenzene) is always uniform in every respect.

It does not vary. You and your customers can depend on that fact.

Users of PARADOW can always count on (1) unsurpassed purity; (2) "ice-crystal" form; (3) full, long-lasting strength. PARADOW is available in six standard sizes (fines to 1/4-inch crystals); also in special sizes. Write for samples and quotations.

**OTHER DOW CHEMICALS**

Coumarin • Methyl Salicylate •  
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cides) • Caustic Soda • Carbon  
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300 others.

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**MANUFACTURERS OF OVER 300 CHEMICAL PRODUCTS**  
**THE DOW CHEMICAL COMPANY**  
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Branch Sales Offices: New York City, St. Louis, Chicago, San Francisco,  
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\*Trade Mark Reg. U. S. Pat. Off.

# CIDAN #1

**A NEW DISINFECTANT BASE  
MILD IN ODOR AND A LOW  
PRICED, POWERFUL GERMICIDE**



● With Cidan #1 you can make specialty disinfectants with a relatively mild odor to be used in hotels, hospitals, restaurants, and other buildings where a disinfectant with a minimum amount of odor is desired. Such a disinfectant can be scented to give a definite aromatic note.

Because of its high germicidal strength even as low a concentration as 7% Cidan #1 in a potassium linseed oil soap will produce a disinfectant having a phenol coefficient of  $2\frac{1}{2}$  to 3—at approximately the same cost as a similar disinfectant made with cresylic acid.

Prolonged tests show that a disinfectant made with

Cidan #1 will not lose its germicidal strength upon aging.

Learn the many advantages of this new disinfectant base by writing for samples and further information.

**G I V A U D A N  
D E L A W A N N A, I N C.**

80 FIFTH AVENUE, NEW YORK, N. Y.

Branches: Philadelphia, Los Angeles, Cincinnati, Detroit, Dallas, Baltimore, Chicago, San Francisco, Seattle, Montreal, Havana.

... for *Para Blocks*  
and crystals—

## DICHLOROMES NORDA

*for Paradichlorbenzene*

<i>Series A</i> \$1.00	<i>Series B</i> \$1.50	<i>Series C</i> \$2.00
Bouquet A	Bouquet B	Bouquet C
Lilac A	Lilac B	Lilac C
Rose A	Rose B	Rose C
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## SECTOROMES NORDA

*for fly sprays*

Priced at 50c and \$1.00 per pound

*Ask NORDA for further details.*



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## *Results* TELL THE STORY

After three years, Crown Can enjoys the patronage of numerous industries including many prominent names in American business.

Crown has deservedly won confidence through its policy of being independent and

helpful and its constructive approach to every industry problem.

That the success of this practical ideal is also good business is best attested by Crown's growing list of enthusiastic patrons.

CROWN CAN COMPANY, PHILADELPHIA, PA.

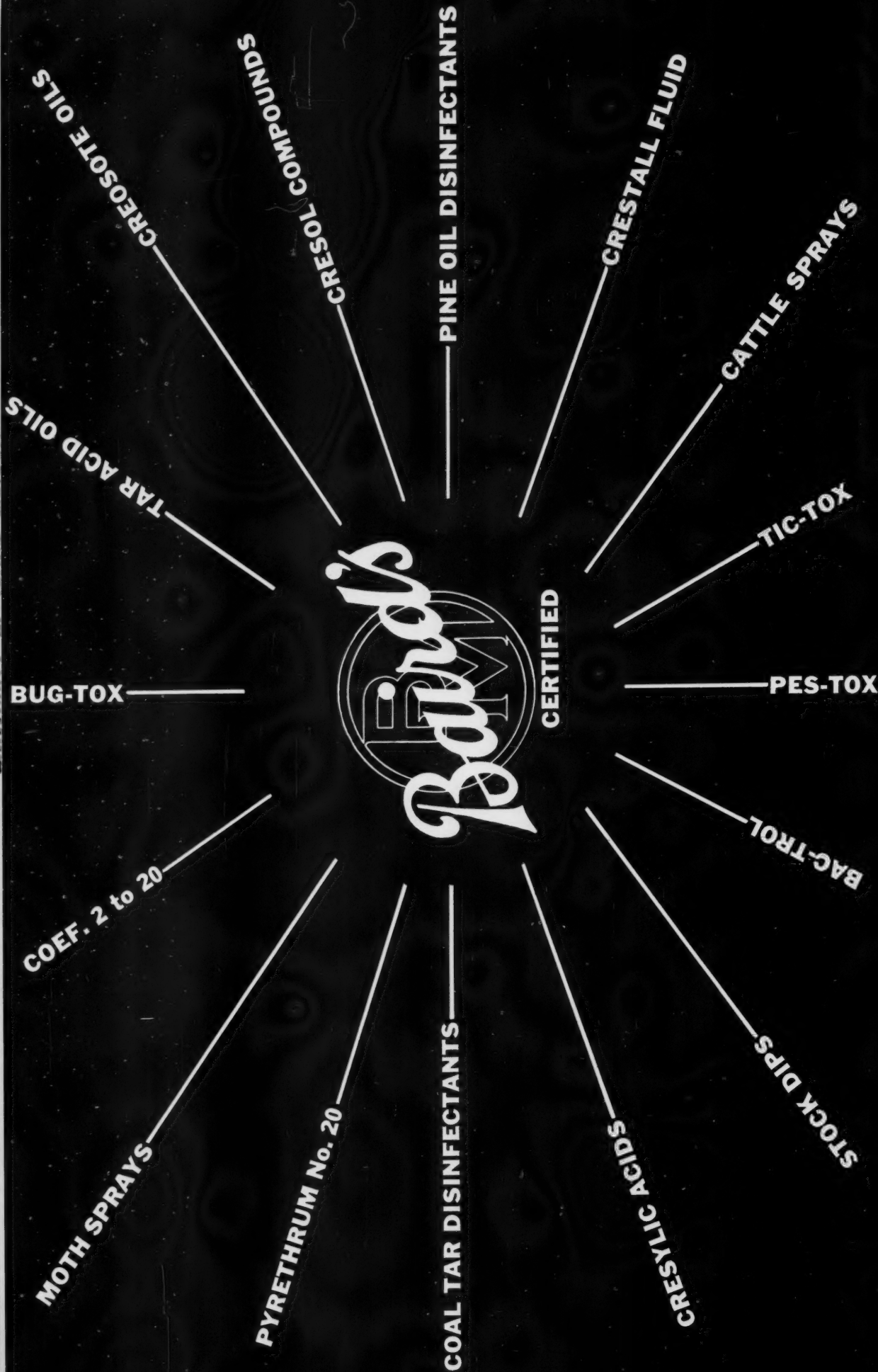
*Division of Crown Cork and Seal Co.*

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO

# CROWN CAN

I N D E P E N D E N T   A N D   H E L P F U L





# Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

**M**ETHODS of hiring and compensating sanitary supply salesmen have long been considered basically faulty. The matter has been discussed at length over the years, but little has been done to correct these faults. As a consequence, the industry has suffered and continues to suffer from the character of its sales representation. Turnover in sales personnel has always been high. Shifting of salesmen in and out of the trade and from one house to another in rapid succession has not enhanced the reputation of the industry among those who buy and use its goods. And behind it all, we feel certain after years of observation, lies the way in which salesmen are chosen and the basis upon which they are paid.



**N**EW labeling requirements for pyrethrum insecticides which become effective next September 1, have brought numerous inquiries from manufacturers. Shall the active or the inert ingredients be stated? How shall mixtures containing pyrethrum be labeled? These and other questions are discussed at some length elsewhere in this issue and will be covered more in detail next month. However, there is one question which has come from many manufacturers and which involves points not immediately apparent. Shall the label statement cover the material as packed at the factory or as sold over the counter?

According to the Food & Drug Administration, label statements must agree with the analysis of the insecticide as sold to the

consumer. In the case of pyrethrum and other materials subject to deterioration, this poses a real problem for the manufacturer. How fast will deterioration take place in the package? How much should be allowed for this in the label analysis?



**W**HEN a large manufacturer of linoleum refuses to guarantee its floor coverings unless "they are installed and maintained in accordance with our specifications," this is not so bad. But when, we read further and find that these "specifications" include the use of this manufacturer's own floor wax, and none other, then it becomes a matter to provoke thought. "We cannot assume the responsibility for any of our products (floor coverings) maintained other than by the use of our wax." And the manufacturer continues: "... we no longer carry a list of approved waxes of other manufacture."

What are the reasons behind such a move? Just an attempt to sell more of their own wax, or does it go further? Knowing that there are dozens and dozens of good waxes on the market, equal in every way to the product in question, and that this manufacturer is undoubtedly well aware of this fact, we are inclined to believe that it is simply a high-pressure means of selling more of their own product. Complaints of damage caused by using other waxes? Then what of their abandoned list of approved waxes? And why abandoned?

If this is what it appears to be on the surface, it is certainly a small-potato policy for so large and prominent a manufacturer.

# What's Wrong With SANITARY SUPPLY SELLING?

UNHAPPY is the lot of the average sanitary supply salesman. His is one of the toughest of tough selling jobs. Mostly because of the extent and character of the competition which he must face, it is never an easy matter to sell his goods, and sometimes it is well nigh impossible. In many cases, buyers do not look upon any sanitary product with favor, and the salesman is frequently accused of being part of just another racket. Because of the very limited educational efforts among buyers and consumers by sanitary supply manufacturers over the years, the selling task is proportionately more difficult. Among a large part of his trade, the average salesman must educate as well as sell.

Many manufacturers will not be pleased by the foregoing statements and will be quick to express their disagreement with them. However, any sanitary supply salesman who has had experience of any extent, knows that they are true. He also knows that there are a dozen other major troubles which seriously interfere with selling and make it unnecessarily difficult. He knows that there are far too many firms in the sanitary supply field, and he knows that there are too many salesmen to permit the average man to make a fair income. He knows also that the turn-over in salesmen is heavy, and that this constant changing of sales representatives has made a very unfavorable impression on buyers. They believe that there must be something wrong with a trade which changes its salesmen so often. They believe that such an industry must lack stability and be comprised mostly of fly-by-night firms.

Now, these are actual observations based on the expressed opinions of many buyers. Their ideas may not apply in all cases to the older and better known firms, but they do apply to a sufficient number so that the industry as a whole is not held in very high repute. I have found this particularly to be the case when calling on purchasing agents for large industrial establishments and also some public officials. The fact that I may represent one of the better firms, and place the blame for conditions on my competitors, does not seem to make much of an impression on most buyers. They tell me that last month twenty-five sanitary supply salesmen called on them, and that by next month, half of these men will be missing and new men will call in their places, and in another month or two, the other half will also be replaced. Although this may not be an altogether accurate description, buyers have the impression that sanitary supply salesmen come and go very fast, and that *few good salesmen stick in the sanitary products business very long.*

No matter what manufacturers may say about these conditions, and no matter how many exceptions there may be, they do exist. That, I well know. What is the cause and what is behind them? The method of hiring and compensating salesmen by many companies in the sanitary products trade, even the better firms. It is no exaggeration to say that some firms will hire anybody just so long as he will go out and try to sell the line on a strict commission basis. That this does not apply to all manufacturers, we know. Some are very choosy in the way they select sales-

men, but they represent a small minority. As a result of this hiring of almost anybody, the sales record of the sanitary supply trade as a whole has not been good. Evidence of this lies in the rates of commission which are paid on some types of goods. Where the commission rate is very high, there must be reasons for this, and there are. Too many lines in the market and too many salesmen selling them, that is the answer,—a high commission rate to compensate for restricted sales volume. If this were not the case, the average salesman would not stick for a week.

Because many firms will hire anybody,—and how they can do this realizing that these men are going to represent their company before buyers everywhere, is hard to understand,—losses from various forms of dishonesty, order padding and similar tricks have been high if my information is correct. And how a dishonest salesman can pull the same tricks on several firms in succession, and I know this has been done, is a puzzle to me.

The only conclusion which can be drawn from a number of years of observation is that the majority of sanitary chemical firms have trouble securing good salesmen because they offer little to such men. And if they do secure good men, their chances of keeping them are small. Most firms want new men to go to work on a straight commission basis, many times working new territories and new accounts. In cases where drawing accounts are allowed, these are usually small, too small in most instances to be of much practical help to a new man breaking into a territory. In short, most manufacturers want these new men to do their missionary and



Only on the understanding that he would remain strictly anonymous, did the author give his views in the form of a blunt comment on sanitary supply selling. So anonymous he must remain!  
—The Editor.



educational work at no cost to the manufacturer, and with little hope for any immediate income or profit. Understand that I refer to new men, and not to men who switch from one manufacturer to another. But even in the case of the latter, the going is also very tough with a new firm.

With a sales set-up like this, it is no wonder that many sanitary supply houses have a perpetual salesmen problem. In the first place, it is my guess that ninety per cent of all the new men taken on, are men who cannot at the time find some other type of sales job. They take on the new line as a stop-gap with the intention of moving on as soon as something more to their liking is available. No man who really can sell, unless he is temporarily in a tight spot, is going to take a straight commission job in a strange field, according to what I have observed over the years. There may be some exceptions such as young men, able to carry themselves, breaking in to learn the business. And there are also those having an established territory in some other field who take on representation for a sanitary supply house as a sideline.

Any line of business which has widespread difficulty in securing and keeping salesmen ordinarily looks for the trouble, but in sanitary supply selling, the industry does not have to look far. Its method of hiring and compensating salesmen has brought it much trouble. As far as I can see, many of those salesmen who do stick and are really successful, go into business for themselves within ten years. But the percentage who ever reach this point is very small. I have often thought as I have seen the best men leave the old company and go out on their own, that maybe the companies prefer the present heavy turn-over in salesmen and the sour taste which it leaves in the mouths of buyers to having each of their successful salesmen stand as a potential competitor.

Where is there a sanitary supply salesman who has not thought that if the company can pay him up to thirty and forty per cent commission on some items in the line that the house must be netting as much if not more? Whether it is true or not, the salesmen think it is, and it gives them the urge some day somewhere to go into business for themselves. Had

many of the salesmen, who during the past ten years have started up in business for themselves, some of them on the thinnest of shoe strings, been paid a *fair salary* and a *small commission*, they might still be with the old companies. But today, some of them head successful firms and may have different ideas on the subject. Nevertheless, it is my opinion that the present method of hiring and paying salesmen has been the underlying cause of many of the ills of the business at present. At any rate, I believe that those of us selling for old line houses would probably be having a lot easier time of it and about one-third as many competitors as we have today.

SO MUCH for the salesman and the position which he holds in the sanitary supply trade. Let us now take a look at some of the problems with which he is confronted on his daily rounds. In selling sanitary supplies, the salesman is faced with two types of buyers, the fellow who purchases for the large company and knows something about sanitation and its products, and on the other end, the small individual plant or building



owner who knows little about sanitation and is generally opposed to it because it costs him money. The fact that the large plants receive more attention from public authorities, chiefly health officials in checking up sanitary conditions, may have something to do with the interest of their purchasing agents in the subject and willingness to spend money for sanitation maintenance products. Periodic inspections by health officers in larger plants are common; in small ones, they are rare.

Even in recent years, I have found that conditions in the average small factory and machine shop reflect little attention paid to sanitation. Dirty, stinking toilets are the rule rather than the exception. Use of disinfectants and deodorants is not common. Nothing has ever been done, it appears, to educate this class of trade. They are the hardest nuts to crack for the sanitary supply salesman because their owners are not sanitation conscious and in addition, they are suspicious that the salesman is out to sell them something which is just an unnecessary frill. There is certainly an educational job crying for attention in these small factories.

By contrast, the larger plants, especially the newer ones, are steadily expanding their purchases of sanitation materials. They are in close touch with modern developments and ideas of cleanliness and sanitation, and represent the best type of customer for sanitary supplies. The trouble is that about every supply salesman within the state knows this, and as a consequence, competition for this business is intense. The general idea among the newer plants is not only to provide the best in lavatory and locker-room equipment for employes, but also to furnish soap and towels free. In most of the older plants, employes still buy their own soap and towels.

Probably the best type of customer in my territory is represented by the banks and large modern office buildings. They buy practically the entire sanitary line, are usually fully sanitation conscious and are willing to pay the prices for higher quality materials which is not always the case even among the newest industrial plants.

Of course, this is understandable to some extent because they are catering to a higher type of worker on the whole. The better grade of restaurants also offer a market just about on a par with the banks. They usually buy a rather full line of deodorants and drip machines, higher grades of insecticide, floor waxes, cleaning compounds and dishwashing products. The larger restaurants represent very nice accounts where a salesman can sell them all their needs.

In my territory, the theatres represent a very interesting market. The better movie houses buy a full line of sanitary products including lavatory materials and also soaps for general cleaning and also insecticides and perfumed sprays for use in the theatre itself. It is only among the theatres in the poorer sections of the cities and towns where they buy very little of sanitary supplies. Here we find that vandalism especially on the part of children interferes with the purchase and installation of liquid soap dispensers, paper towels, and drip machines. Operators of these movie houses have found that even the strongest equipment is soon destroyed and have to a great extent given up the idea. As a substitute, the porters periodically clean the lavatories and follow with the use of disinfectants of one sort or another merely poured into bowls and urinals. They also spray the lavatories from time to time with deodorants, mostly formaldehyde products.

In making initial sales calls on theatres and office buildings, I invariably inspect toilets, halls, floors, etc., in advance, to see what type they are and their condition so that I can recommend the proper materials to the superintendent, manager or purchasing agent later. This advance inspection was useful in a recent call on a theatre in a small city. The manager had repeatedly turned me down on drip machines, but I knew in this case that his urinal outlets were badly corroded and were getting worse. I told the manager this and said that the constant drip of fluid not only was an effective deodorant, but that it also gave a solvent action to keep remov-

ing the body waste materials which were causing the corrosion. I mentioned continued corrosion, new outlets, new pipes, and high plumbing bills. Knowing that I had my evidence ready, I asked him to inspect his lavatories with me. This confirmed my own observations and resulted in a recommendation to the main office of the theatre chain and an installation. Knowing your ground before starting a sales talk always helps.

Every sanitary supply salesman runs into the chronic skeptic, the superintendent, factory owner or manager who sneers at all disinfectants, deodorants, insecticides, and other products with the expectation of soap and cleansers. How many times have we all heard them say: "Why use one odor to kill another? You don't use them in your home, so why use them in your factory?" These same fellows talk about plenty of hot water, soap, and elbow grease. But, I have found that eventually there comes a time if you keep plugging away at this type of buyer when something will come up to show him that his old stand-bys of soap, hot water, and elbow grease are not enough to maintain sanitary conditions in factory, school, or public building where hundreds of careless people are using its facilities every day.

I find in these cases that samples of my various products left from time to time will encourage the tough buyer sometimes to try them. Sometimes, this sampling will convince the skeptic. In fact, I find that samples left behind with a buyer who merely accepts them to get rid of you at the moment, may develop into actual orders later. Some buyers are always interested in samples to check against the products which they are using, while in other cases, a buyer may have a sample around for weeks and not pay any attention to it. Then, one day, he has trouble with the product he is using and decides to give the new one a try.

As a rule, I have found that old buyers who have been getting their materials from one source for years, are reluctant to change unless they

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Courtesy Dicalite Co.

## AGRICULTURAL INSECTICIDES

**M**ANUFACTURERS of agricultural insecticides and dealers in these products

have found the entomological departments of the various state agricultural colleges of big assistance to them in recent years, not only in developing and testing new products, but also in extending their sale through cooperative effort. Manufacturers of household and agricultural insecticides alike have both grown familiar in recent years with the work of the entomological department of Purdue University under the supervision of Prof. J. J. Davis. Besides sponsoring an annual Pest Control Operators' Conference, this department issues frequent bulletins dealing with insect problems and methods of control, copies going to manufacturers as well as users of both household and agricultural insecticides. Perhaps as a result of the stimulation of this original effort, the conference idea has spread to

*How cooperation of colleges with local farm populations and insecticide dealers is aiding in their sales and correct uses.*

other states, and other universities have started a search for ways in which they might aid the insecticide manufacturer as well as the user.

Insecticide dealers in the State of Delaware have just finished the first year of operation under a sales promotion plan in which they had the active assistance of the entomological department of the University of Delaware. The partnership as a matter of fact was actually initiated by the college authorities in an effort to develop a more intelligent and effective attack on insect pests affecting Delaware crops.

For some time the college had been mailing two bulletins to Delaware farmers,—“Orchard Spray Notes” and “Vegetable Spray Notes,” giving advice on what to do when codling moths, oriental fruit moths,

the plum curculio and other pests appear. Insecticide dealers, it was felt, ought to be acquainted with these recommendations, too, and the college folks also decided that it would be desirable if dealers had a better understanding of the principles of insect control, together with a knowledge of the action of different poisons on insects.

Insecticide manufacturers were appealed to and they cooperated by supplying the extension service with lists of dealers in their products located in Delaware cities. An assistant in the entomology department then contacted these dealers and provided them with bulletins and other information explaining the principles of insect control as well as summarizing control measures which research had proven to be most effective.

# FOR THINGS THAT CRAWL



**L**ETHANE 384 SPECIAL is highly recommended for the control of bedbugs and roaches.

Independent investigators and our own research staff have proved that Lethane's ovicidal properties, as well as its toxicity to adults, make it exceptionally effective for those hard-to-kill insects.



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Additional interest in the project was aroused in group meetings held with dealers in each county, at which the college experts conducted "classes" on insecticides and insect control. At the annual meeting of the Delaware Pharmaceutical Society last year a college specialist spoke on the general subject of insect control and explained the role of the druggist in the sale of agricultural insecticides.

While the plan has been in operation barely a year, Delaware insecticide dealers are enthusiastic in their praise of the assistance they are getting. Warned in advance that this or that pest is due to appear in home gardens, truck farms or orchards, they have been able to stock up with insecticides recommended by the colleges and by advertising in local papers have been able to reach the market for these products at the time they are in demand. The plan, they say, is a powerful sales promotion scheme the returns from which are of inestimable value.

Another example of the aid that the manufacturer of agricultural insecticides can expect from the agricultural colleges is found in a series of reports on grasshopper control which have been released during the past summer.

Iowa's report for 1938 carries an account of tests made with 110 compounds and mixtures to determine their toxicity to the lesser migratory grasshopper. Oklahoma's report announces "cheap, effective hopper bait found." South Dakota research developed "definite proof" on certain disputed matters and work at other agricultural institutions is similarly set forth in brief progress reports. Considerable data in addition is submitted on the chemistry of agricultural insecticides, methods and apparatus for control of moths, chinch bugs, ants and all the other pests which constitute the farmer's big No. 1 production problem.

Typical of the material embodied in these reports is the abstract of investigation by Iowa entomologists at Ames. Some 1,500 adult grasshoppers were used and insects

were allowed to feed freely on the bran-water baits containing 1 per cent of the substance under test. Continuing, the report says:

"Net mean mortality, mean survival time, mean bait consumption, mean feeding time and mean quantity of chemical substance consumed per gram of body weight were determined. . . . The compounds of highest toxicity were zinc phosphide, ammonium fluoride, ammonium bifluoride, potassium fluoride, arsenic trioxide, sodium arsenite, and zinc arsenite.

"The moderately toxic compounds were arsanillic acid and thallous sulfate, whereas crystal violet, diphenyl, and mercurous chloride were slightly toxic. The fluorides gave the shortest survival times, the arsenical compounds the longest. Highest bait consumption was given by zinc phosphide, lowest by sodium arsenite and zinc arsenite. The insects fed longest on baits containing zinc phosphide but only a short time on those containing ammonium bifluoride and sodium arsenite. Many of the non-toxic compounds rendered the bait so repellent that the grasshoppers consumed little of them. Notable among the repellent substances were most of the copper compounds, many of the phenols and mercuric chloride.

Concluding, the Iowa report says: "Poison bait is now the standard control measure for grasshoppers; but there is need for a poison less toxic to higher animals than the sodium arsenite which at present forms the poisonous ingredient."

Oklahoma's discovery of the "cheap, effective hopper bait," was based on two years' tests of various baits which showed, as the college report says, "that the bait giving the best control at a reasonable cost was 50 pounds bran, 50 pounds sawdust, 2 quarts sodium arsenite (4 lb. material) and 10 to 12 gallons of water. The bait giving the most protection for the money spent was 25 pounds millrun, 75 pounds sawdust or cottonseed hulls, 2 quarts sodium arsenite (4 lb. material) and 10 to 12 gallons of water. Its effectiveness was

somewhat lower than the bran-sawdust bait, but it was cheaper." Other findings from the Oklahoma tests included the following:

"The addition of amyl acetate or ground lemons to baits does not appreciably increase their attractiveness.

"Bran is definitely more attractive than pure pine sawdust.

"A combination of bran and pine sawdust in equal amounts by weight is more attractive than the sawdust alone but not so effective as the straight bran.

"The addition of flour, shorts or millrun bran to sawdust or cottonseed hulls increases the effectiveness of the latter as a base for grasshopper baits. The flour, shorts or millrun bran should comprise from one-fifth to one-fourth by weight of the mixture.

"Alfalfa meal shows some promise as a material to add to sawdust and cottonseed baits.

"Fresh bait is distinctly more attractive than one-day old bait.

"The addition of blackstrap molasses does not appreciably increase the effectiveness of baits.

"Preliminary tests with lubricating oil (vis. 30) show it to have possibilities as a practical substitute for water in baits. Oil baits were considerably more effective than water baits for four or five days after spreading.

"Rice hulls, cane pulp and cottonseed bran were of little value in baits."

South Dakota's contribution to the problem of grasshopper insecticides is embodied in this brief paragraph:

"During the year we proved definitely that epsom salts when used in place of sodium arsenite or white arsenic in our poisoned grasshopper bait does not kill grasshoppers, even when used as high as 25 pounds of the epsom salts to 100 pounds of bran or millrun bran."

Most grasshopper extermination campaigns are commonly conducted as a community affair, usually sponsored by such organizations as

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# Get Quicker Knockdown

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## DIHYDROLIN

(Dihydrorotenone Concentrate)

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### Leg Paralysis!

When you have **LEG\* AND WING PARALYSIS**  
**COMBINED**, *naturally* you have a quicker-acting,  
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Sprays at Lower Cost!**

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# Knock-down on Flies

## A study of fractional time counts on knock-down in the Peet-Grady chamber

By Dr. Harold G. Lederer

*Lederer Bacteriological Laboratories*

**D**URING the past few years, with the advent of many new toxic ingredients for household insecticides, and also with the finer interpretation of the Peet-Grady Test, many manufacturers of these insecticides have asked for, along with the official Peet-Grady tests, a fractional knock-down count. Today, practically all the better grade household fly sprays have 100 per cent knock-down in 10 minutes. Manufacturers are interested in knowing how to improve the speed of knock-down, and also wish to know the per cent knock-down fractionated in times of one minute, or other intervals, until the 10 minute time is reached.

After some research in our Peet-Grady chamber, we have devised a fairly accurate per cent count at the interval time stated, noting these different time determinations. This knock-down count may be made with any number of flies, but it must be remembered that these flies *cannot* be used to determine the subsequent kill after 24 hours, as prescribed by the official Peet-Grady Test. In making this knock-down count, we have ruled out the picking up of flies with forceps at the time intervals and placing them in Petri plates, as this is too slow, and the time element runs from one series to the next.

The procedure that we have used is comparatively simple. An operator is placed in the chamber with enough sheets of insecticide paper, the same as used in making the Peet-Grady Test. This paper is pieced together so that it measures 5 feet, 11½ inches square, in order that it will fit snugly in our chamber. The flies used

to make the test are placed in the chamber, the door closed as usual, and the insecticide sprayed into the chamber in the usual manner. At the end of one minute, the operator inside the chamber is given the signal, and he places the first sheet of paper on the floor. At the intervals of one minute, or other pre-determined intervals, until the ten minute mark is reached, the same procedure is repeated. These series of papers are removed, and the number of flies, if any, that are still flying are noted. The flies at each interval are counted, noting the number knocked down during each time interval.

In our experimental work we have examined eight different fly sprays, which according to the specifications of the National Association of Insecticide and Disinfectant Manufacturers may be classed as "A" sprays. These insecticides are made with different toxic ingredients, some combined and some separately containing pyrethrum, lethane, derris, cube, and rotenone with odorless kerosene. We noted their knock-down at intervals of 1, 3, 5, 7 and 10 minutes, expressed in the following chart:

KNOCK DOWN CHART

Lab. No.	Time in Minutes				
	1	3	5	7	10
23521....	17	46	78	93	100
23536....	8	37	63	86	97.8
23543....	21	57	89	100	100
23547....	26	54	87	90	100
23550....	32	62	91	99	100
23559....	27	51	88	95	100
23560....	36	67	94	100	100
23561....	31	68	96	100	100

It will be noted that at each time interval, there is approximately 30 per cent maximum variation in the

knock-down at any particular point, gradually closing the gap at the seven minute time. With these interesting results and with a comparatively new idea to supplement the official Peet-Grady Test, further research must be made in order to prove whether or not this method will have any real value in grading and determining the practical efficiency of household insecticides.

The ethylene glycol ether of pinene, a commercial pine oil compound, was very toxic to the house fly. Combinations of pyrethrum and the pinene ether display the rapid toxic action of both ingredients. The use of the pinene ether in connection with pyrethrum sprays reduced the "knockdown" time appreciably. The mixture could be stored in air-tight cans for 22 months without loss in toxicity. There was some loss in toxicity when the mixture was stored in flint glass bottles. Loss of color and precipitation in pyrethrum fly sprays is a definite indication of a loss in toxicity. The addition of ethylene glycol ether of pinene to pyrethrum fly sprays did not retard losses from precipitation or color fading.

Rotenone proved more effective in sprays when the pinene ether as added to it. The loss in the toxicity of fly sprays containing rotenone, safrole and the pinene ether, when exposed to sunlight and light in flint glass bottles, is correlated with color changes and precipitation. Roger L. Pierpont. Delaware Agr. Expt. Sta., Bull. 217, 5-59 (1939).

# KILLER

of (Not Alone) FLIES but also  
**BEDBUGS, ROACHES, SILVERFISH and MOSQUITOES**  
**...PYRETHRUM**

**S**CIENCE-TESTED, time-tested and "clinically" tested, Pyrethrum packs a killing wallop against flies, roaches, bedbugs, silverfish, mosquitoes and other pesty insects. Our point is this: Relatively high prices have created a demand for pyrethrum substitutes and activators, altho many claims for these remain unsubstantiated.

A number of them have performed poorly against the hardier pests, roaches and bedbugs. Pyrethrum still reigns supreme. Fact of the matter is that with its all-round insecticidal efficiency, it is actually much more economical and, more important, is a top notch trade and good will builder. When it comes to pyrethrum extracts, use . . .

## PYREFUME

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PYRETHRUM  
CONCENTRATE"

### PYREFUME ADVANTAGES —

A high "knock-down and kill" potency tested physiologically • Pyrethrins content rigidly assayed after extractions. • Assured stability through special Penick process • Blends cleerly with usual oil bases and stays clear • Unusually stainless • Singularly free from unpleasant odors: less perfume required • Costs less due to Penick economies.

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# INSECTICIDE STAINING

A study of tests on wall papers with insect sprays, base oils and other solvents

By Dr. Werner G. Husen\*

Commerce Petroleum Co.

WHILE the majority of insect sprays on the market today are for all purposes non-staining when used in the form of a fine mist and according to manufacturers' directions, there is, nevertheless, considerable interest in the subject of staining and its causes. This is the case even though the practical danger of staining is no longer inherent in the average liquid insecticide, but may be due to some condition or conditions beyond the control of the insecticide manufacturer.

Consider that a great percentage of household insecticides are sold through retail channels and find their way into the home where they are sprayed in all sorts of sprayers against all sorts of insects, where they tend to settle and liquefy on mouldings, door and window frames, curtains, clothes, and wall paper. In the case of wall paper, particularly, some studies have been made which, although they deal with extreme conditions of insecticide use, present a number of interesting facts.

Before going into wall paper staining, first, consider the question: What is really understood by "staining"? If we turn to Webster's definition of this expression, we read: "To stain means to discolor with foreign matter; to spot." Of course, in many of such wall paper stains, it can be shown that there is a discoloration by foreign matter. In these cases it can also be shown that nothing but dirt has been dislodged by the insecticide liquid and left deposited on the wall paper after evaporation. Such stain-

ing is mostly the result of negligence on the part of the user, and it can, therefore, be dismissed from further discussion.

Interest in certain technical phases of wall paper staining by insecticide sprays started when attention was called to a different type of staining. In this case, stains had shown up on the walls of a newly decorated room after a professional exterminating job with an insecticide spray. Investigation showed that dirt could not have been the cause of this staining. It could also be noticed that the staining had a different appearance. While a dirt stain is of the so-called "spot" type, discoloring the paper more or less uniformly, a "solvent" stain seems to run in long vertical lines which faced the wetted sections of the wall paper.

Fig. 1 shows the two stain types and allows a comparative study. Now disregard the "spot" type—due to dirt—and consider only the "solvent" type of stain. The first step

was to check the petroleum base of the insecticide spray in question and it was found to conform to specifications. When poured on white filter paper, it did not leave any trace of residue or stain after evaporation. This situation seemed to pose a problem which appeared worth looking into.

The photographs shown give a picture of how different petroleum bases, insecticide sprays, and other solvents may affect wall paper. For these demonstrations, strips of wall paper were mounted on one-quarter inch plywood boards. The mounted boards were hung up and for each test, equal amounts of the base were poured on the wall paper near the upper rim so that the liquid could gradually run down to the bottom.

A few words about the principles of wall paper manufacturing will be of interest since they explain the subsequent selection of wall papers for the staining tests. The printing of wall papers is the work of large

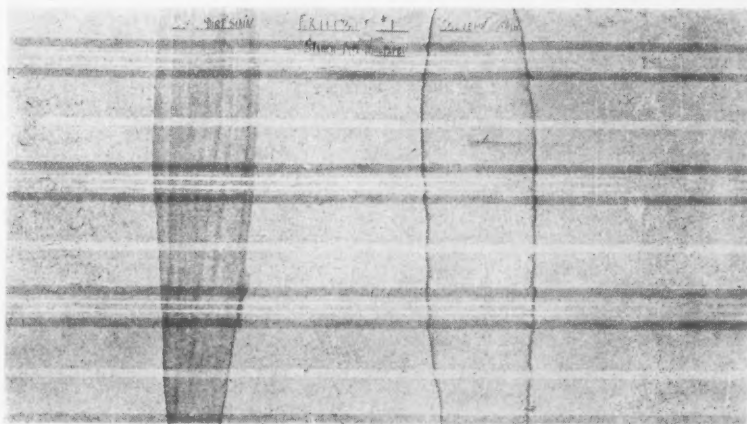


Fig. 1. (Left) A "spot" type stain caused by dirt. (Right) A "solvent" type stain caused by action of a solvent. Starch type wall paper.

\* Paper based on address before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Washington, D. C., Dec. 1939.





## NEUTRESSENOL

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The news is rapidly spreading that the use of "D & O" Neutressenol with Pyrethrum in household insecticides permits a 40% reduction in the Pyrethrin content at an important saving in cost, but with a significant increase in effectiveness.

Neutressenol is practically odorless, nearly water-white in color, completely harmless and non-irritating, and without residual taste.

Although activators, synthetics and stabilizers are available in a variety extremely confusing to insecticide manufacturers and many have merit, their use in most cases is accompanied by certain disadvantages.

Neutressenol has proved its effectiveness, and if there are any drawbacks connected with its use they still remain undiscovered.



## PYRESSENOL #20 ODORLESS

combines Pyrethrum and Neutressenol in the proper proportions for maximum effectiveness. Used at the same dilutions as Pyrethrum Extract No. 20, it gives significantly better results at appreciably lower cost.



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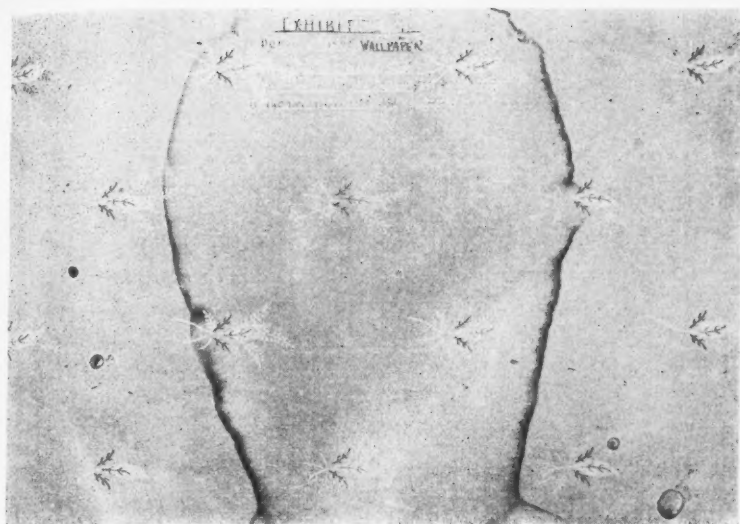


Fig. 2. A "solvent" type stain obtained by pumping petroleum base from a spray gun held two feet distance from paper. Protein type wall paper.

presses. The colors of one type are prepared as a water dispersion by mixing together certain binders, pigments, and fillers. The raw paper is fed from large reels into the press. In this machine, the individual pattern of each wall paper is produced by the combined actions of a number of specially cut cylindrical rollers, the so-called "blocks." These blocks rotate in separate color pans, filled with the various color pastes and they print the pattern on the paper which is drawn through the machine at a constant speed. The printed paper which is very moist at this stage of production undergoes a gradual drying process by moving it through heating units before it is rolled up as a finished product.

There are three distinct types of wall papers manufactured by this industry. Each one differs from the others in the type of binder which, as mentioned, is employed to prepare the color paste for the final purpose of holding the pigment to the paper.

According to information received, the major portion of all wall paper offered on the market is the so-called *starch* type paper, the starch acting as binder for the pigment. This is the lowest priced paper and it is not waterproof.

The second largest amount of wall paper is made with a *protein*

binder. Casein, glue or soybean-protein supply the necessary raw material for this binder, which is rendered water insoluble by a treatment with formaldehyde or some other chemicals. This wall paper is higher priced and it is waterproof.

The balance of wall paper sold is manufactured by the more expensive method of Rotogravure ink printing. For this process varnish-type resins form the binder substance while petroleum and coal-tar naphthas serve as solvents.

Of course, this situation complicated the research and made it necessary to run every test separately with each type of wall paper in order to get a complete picture. For all further tests, therefore, wall papers of the three types were secured and equal amounts of the petroleum base were poured on each type.

The first results obtained showed a rather conflicting picture. While some of the starch papers were left with strong pronounced stain lines, others were only slightly effected. The same thing happened with the protein and rotogravure ink papers. Some dried barely leaving any stains, other ones stained much stronger. Remembering the experience, as previously related, that very pronounced staining was found in a newly decorated room, it appeared

that the moisture content of the wall paper might have some bearing on the staining effect. Therefore, some of the papers that had hardly stained before, were artificially moistened by spraying them with water. After pouring some of the petroleum base on these papers, they showed upon drying the same strong pronounced stain lines.

To obtain comparative maximum staining results all further tests were, therefore, conducted with wall paper samples which had been previously saturated with water. Practically, this was accomplished by spraying water on both sides of the wall paper until the front side showed a uniformly wetted appearance. Then, these samples were allowed to dry at room temperature just long enough that the surface showed again its normal shade. As soon as this condition had been established, the pouring of liquid for the stain tests started.

This method of pouring equal amounts of liquid was used to obtain clearer demonstration pieces. It should be mentioned that similar solvent stains can also be obtained by pumping the insecticide sprays from a spray gun which was held at about two feet distance from the wall paper. Such a stain can be seen in Fig. 2.

Petroleum bases, as they are used by the insecticide industry, fall into two general classes. The one is the "mineral spirits" class, the other one the "kerosene" class. Both products are essentially of the same chemical composition,—both are hydrocarbons. The mineral spirits offer faster drying time, but have lower flash points. The kerosenes have higher flash points, but dry more slowly. This means that their odor may linger longer, although they are also available in special refined odorless form. A selection of these different bases was made and the same tests were repeated and showed that all the petroleum bases have the same staining effect under these test conditions.

The next series of tests was conducted by preparing typical insecticide sprays with a petroleum base. The following solutions were used: 5 per cent pyrethrum concentrate, 2 per cent lethane, 2 per cent cresylic

Miss Smith, a memo to all departments:

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**KORK-N-SEAL**



Here's a manufacturer who has discovered how much the KORK-N-SEAL Cap adds to the saleability of his products. First of all he finds it does a perfect sealing job, on the most difficult products, in glass or tin. And then it provides the user with a cap that is remarkably easy to open (and users like that). What's more, it provides a cap that's just as convenient to re-seal. Besides

all this, there's the new low price of KORK-N-SEAL that makes it doubly attractive to manufacturers who keep a keen eye on costs, saleability and profits! Why not get the facts about KORK-N-SEAL?

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A New Cap for  
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The first really satisfactory cap for sealing and re-sealing oval pouring spouts. Makes a positive seal at all points of the spout, even at the pouring point. Easy to remove, easy to replace. Ideal for products that present a pouring problem. Full information, samples and prices are available.

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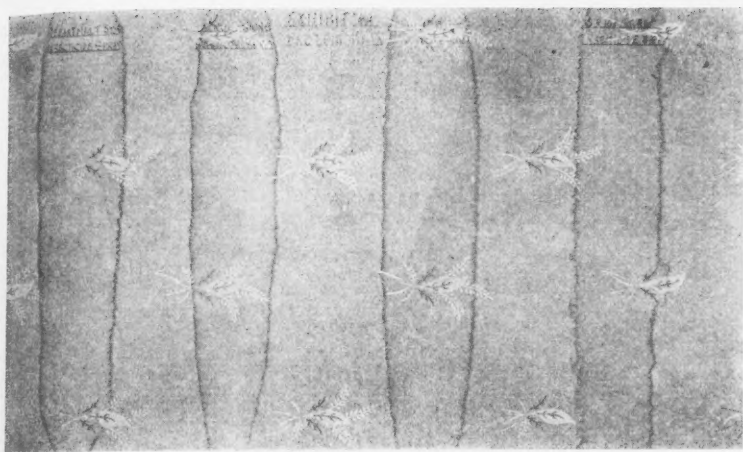


Fig. 3. Stains secured by pouring four commercial insect sprays on protein type wall paper. Stain effect identical with that from petroleum base alone.

acid, 1 per cent nitrobenzene with 1 per cent naphthalene flakes, 1.5 per cent diamylphenol, and 2 per cent paradichlorobenzene. Each insecticide solution was poured on the moistened wall paper and produced distinct stain lines. The addition of the toxic agents to the base seems to intensify the stain effect slightly.

For the next test, eight samples of the commercial insecticide sprays were purchased from 5 & 10 cent stores, department stores, mail order houses, drug and hardware stores. All eight sprays were first subjected to tests on plain white filter paper and dried without leaving any residue or stain. When poured on the three types of moistened wall paper, they produced stains (Fig. 3) of practically the same degree as those made by the insecticide sprays of known composition.

After an examination of all these described stain tests, the results seem to indicate that under equal conditions, the starch-type wall papers show the most pronounced stain lines. The protein-type wall papers stain next in intensity and the rotogravure ink-type wall papers, containing the varnish-type resin as binder, are least affected. It has been estimated that twice as much of the starch wall paper is produced as each of the other types.

Another series of tests was undertaken for the purpose of determining how other commercial solvents would react in contact with wall

papers. One solvent each, characteristic of its class, was selected for this stain test. Carbontetrachloride representing the chlorinated solvents, denatured alcohol, xylol a member of the coal-tar naphtha class, and butyl-

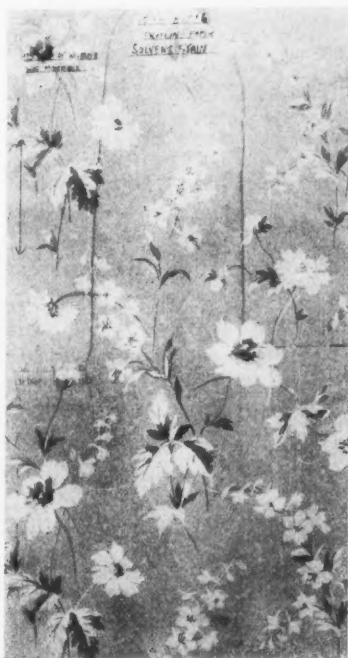


Fig. 4. Higher the moisture content of wall paper, greater the staining shown in tests. Dry papers show negligible staining. Upper half this paper showing stain was damp. Lower half showing no stain was dry having been dried in oven for two hours at 230° F.

acetate a strong lacquer solvent, were used. Results showed that all these solvents also stain. The intensity of the stain lines seems to grow with longer drying time of the solvent in question, e. g.: Carbon-tetrachloride stains little, alcohol stronger, while xylol and butylacetate leave very strong stain lines. It can be seen, therefore, that from the viewpoint of these tests none of these solvents offers any advantage over petroleum oils.

Tests were made to see if these solvent stain lines could be removed from the wall paper. Repeated applications and strong rubbing with a cloth saturated with a very light, fast-drying naphtha gradually reduced the stain lines.

Now examine Fig. 4. Here it can be noticed that a stain line runs down from the upper rim of the wall paper but this line disappears towards the middle section of the same paper. And yet, the same amount of solvent has been poured down, enough liquid to cover the whole length of the paper as in previous exhibits.

In this case, the upper half of the paper had been prepared for the stain test by saturating it with water as described before. The lower half of the paper, however, had been dried in an oven for two hours at about 230° F. The results of this exhibit present, therefore, the story of staining intensity. For practical purposes it should mean that wall paper which is wet or damp as in newly decorated rooms, will tend to strong staining due to moisture present. Old wall paper or other paper which is relatively dry will be less sensitive. Atmospheric conditions during different seasons and different geographical locations may also have marked influences in this respect.

There is still the question open, what does really cause this staining? Some other tests were started to find an explanation for this staining. Close study of the stain line at this point of the research seemed to indicate that it is produced by the accumulation of washed-out binder or pigment particles from the wall paper. These particles appeared to be carried by the solvent possibly due to capillary





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action to the outer edge of the area. This action of the paper fibers may be compared to the one of a lamp wick. Now, the drying of the wetted area starts in the reverse direction from the outer edge towards the center. This is due to the fact that the liquid layer is thinnest at the outer edge. Under such conditions, the washed-out particles cannot flow back. They are precipitated and remain deposited at this outer edge and thus form the stain line.

The next question is now, is this stain line formed by pigment particles or binder portions, such as starch, protein or resin? To throw some light on this point, it seemed to be of value to know what influence would insecticide bases and sprays have on the paper alone. For these tests, samples of the very same papers were secured which form the foundation for the three types of wall papers. Three grades of paper were tested. Two of these, one light and one heavy grade, are used for the starch and protein type wall papers. The third grade is a more expensive bleached sulfite paper, which is the one base for the rotogravure ink process. All three types of paper are specially sized at the mills, this treatment consisting of mixing rosin or other sizes with the pulp. The sizing process modifies the sheet to give it good printing or coating characteristics.

Tests show that these plain papers which form the foundation for the wall paper printing process give the same stain lines when subjected to the action of petroleum oils. Apparently some of the sizing material of the paper is washed out. The tests showed also that this action is most pronounced if the paper is moist and that dried papers are stainless. One explanation might be that on the dried paper, the rosin from the sizing process forms a strong and resistant coating with the paper fibres. On the other hand, the moist paper fibres may produce a partial emulsification with the solvent. Such a condition could create enough solvent action to dissolve some of the rosin sizing. This theory would also allow an ex-

planation about the varying stain intensity of the three types of wall paper. The three pigment binders may also act as a protective coating and according to the results obtained the starch binder is simply the weakest and least resistant to penetration of the petroleum base.

In conclusion it can be summarized that under certain test conditions, all wall paper types stain when subjected to the action of insecticide bases and solvents. The moisture content of the papers is an important factor, the more moist the paper, the more pronounced the stain effect. The stain intensity seems to be highest with the starch-type wall papers, then follow the protein-type and finally the rotogravure ink-type wall papers.

#### Fabric to Repel Insects

A preparation for application to stockings, fabrics or other articles of clothing to cause them to be insect-repellent comprises sucrose octoacetate and an insect repellent such as oil of citronella, with or without menthol and thymol, and in some cases with the addition of quinine, which may also replace the oil of citronella. The ingredients are made up with a base of soap flakes when for use as an aqueous wash or with denatured alcohol when intended for use as a spray. Albert Smith. British Patent No. 508,163.

#### Deguelin in Derris

A method for isolating and determining deguelin, a toxic constituent in derris and cube is given. After the rotenone and the aqueous alkali-soluble materials have been removed, the remaining resin is treated with dilute methanolic alkali. The resulting racemic deguelin is crystallized from carbon tetrachloride and weighed as a 1 to 1 solvate. The purity of the solvate is determined by the Goodhue red-color test. Duplicate analyses check to about 0.2 per cent. Many of the check determinations were made as much as one month apart, and the results were always in good agreement.

The amount of deguelin in dif-

ferent samples of derris and cube varies greatly. Eight out of the thirteen samples that were analyzed contained less than 1 per cent. One sample of derris contained 3.9 per cent, and one gave the low value of 0.24 per cent. The samples of cube examined varied in deguelin content from a high of 2.3 to a low of 0.25 per cent. The high toxicity to insects of the non-crystalline portion of derris and cube extracts, coupled with a generally low deguelin content, suggests the presence of other unidentified compounds that contribute to the toxicity. Lyle D. Goodhue and H. L. Haller. *Ind. Eng. Chem., Anal. Ed.* **11**, 640-2 (1939).

#### Rotenone Determination

In determining the rotenone content of plants care must be taken to obtain a representative sample, as different parts of the same root do not contain the same quantity of rotenone and small roots are richer in rotenone than large roots. The method of determining rotenone by crystallizing a rotenone salt from a solvent and weighing the crystals is very unsatisfactory. The estimation of rotenone by measuring the methoxy groups or by the colorimetric method can be improved by certain modifications. A. Guillaume and G. Herve. *Rev. botan. appl. agr. trop.* **19**, 552-64 (1939); through Chem. Abs.

#### Fluid Polishing Composition

A fluid polishing composition consists of an aqueous liquid vehicle having suspended wax particles in it that have been comminuted by spraying the wax in a liquefied state into an atmosphere in which the spray particles solidify. The comminuted wax may be colored by means of an oil color, and the polish may include wax emulsified in the liquid vehicle. A thickening agent may be added. An example contains comminuted wax, water, an aqueous wax emulsion, shellac, dye, sea moss or mucin, and soap. Boston Blacking Co. B.m.b.H. British Patent No. 506,425.

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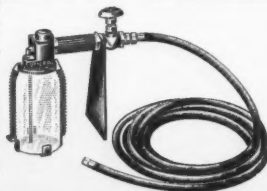
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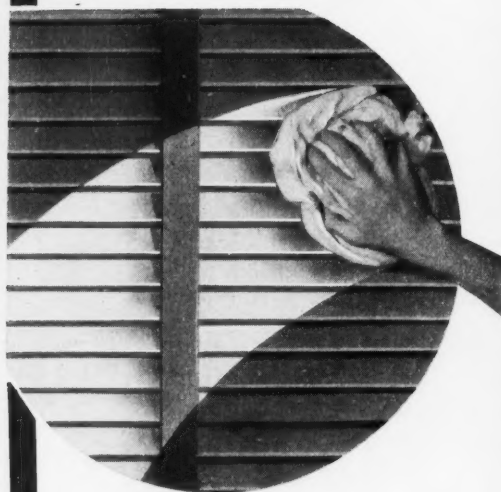
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# Scientific Advances in 1939 in DISINFECTANTS and ANTISEPTICS

By Dr. Emil Klamann\*

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**D**URING the past year or so, some important scientific and technical contributions were made both in the field of germicides proper, as well as in certain fields of chemical technology, which are likely to have a highly significant influence upon the direction in which the problems and products of the disinfectant industry are going to develop in the near future. These new matters will be dealt with in greater detail under their respective headings. In other respects, as in previous years, this annual report will endeavor to furnish a general review of the worthwhile developments in the anti-bacterial fields, as reported in the scientific, technical and patent literature.

## Methodological Studies

It should be a source of some gratification that the Food and Drug Administration method of evaluating germicides is gaining recognition abroad. A recent paper by E. Maier and E. Müller (1) gives the results of F.D.A. tests performed with a number of disinfectants commonly used in Germany.

The principle of the manometric evaluation of antibacterial agents first elaborated by J. Bronfenbrenner, A. D. Hershey and J. Doubly (2), (3) was applied by J. O. Ely (4) in a study of several germicides. *Escherichia coli* was used as the test-organism. Among other things, it was found that the inhibition of respiration in relation to the germicidal effect differed with the various compounds used.

E. R. Withell (5) applied the

\*Reported before the 26th annual meeting of the National Association of Insecticide and Disinfectant Manufacturers, Inc., Washington, D. C.

measurement of the velocity of germicidal action (rather than the more customary determination of a complete destruction of bacterial cultures), as a means of evaluating germicides.

An improvement in the method of testing antiseptic powders was suggested by J. H. Brown (6), while L. J. Piccoli and M. Hecht (7) reported upon a modification of the agar-cup method for testing volatile substances.

An attempt to ascertain the efficacy of hand "disinfection" by "scrubbing" was made by P. B. Price (8). The bacterial flora of the hands and arms was studied by "scrubbing" uniformly in a series of basins and making counts of cultures from the washings. Price divides the bacterial flora of the skin into the transient and resident varieties; the latter amounts to about eight million organisms. Mechanical cleansing removes the transient flora readily, but the resident flora is removed only slowly, at a logarithmic rate. After an effective reduction, the full reestablishment of the skin flora may require several days. On the dry skin, the generation time is several hours, under clothing less, and under rubber gloves only forty to sixty minutes. It was found also that with prolonged contact certain transient bacteria may become resident. Thus it is conceivable that neglect of contaminated hands may result in their becoming "chronic" carriers of infection.

E. M. Burlingame and G. F. Reddish (9) described a method of testing the fungicidal action of preparations for the treatment of epidermophytosis, intended to yield an

indication of probable efficacy in clinical practice.

## Phenolic Disinfectants

Perhaps one of the most important recent events, from the point of view of the disinfectant industry, is the introduction into the raw material market of "phenolic" compounds from petroleum sources. Some of these "acids" correspond closely to those of tar origin while others display properties hitherto not found in the ordinary "cuts" of tar acids. The purely economical effects of the opening up of an entirely new source of initial material for the production of germicides must be left to conjecture at this stage. While the literature on this subject as yet is very meager, the great potential interest for the disinfectant industry of the materials there are already some indications of from this source.

Two petroleum companies are prominent in the new field at this time, viz., the Shell Development Company and the Standard Oil Company of California. At the September meeting of the American Chemical Society in Boston, Mr. Edward Field of the Standard Oil Company presented a paper by E. Field, F. H. Dempster and G. E. Tilson (10) before the Petroleum Division in which he gave an exhaustive picture of the new development. Only some of the more important features of this paper can be referred to in this report. Phenolic compounds occur in petroleum distillates primarily by reason of thermal alterations, such as would take place in the course of cracking. It has been known for some time from the work of previous investigators that phenol, the three cresols, certain





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xylene isomers, di- and triethyl phenols and beta-naphthol occur in crude petroleum distillates of various origins. Phenolic acids of different boiling ranges are extracted on a manufacturing scale from cracked petroleum naphtha; the extraction is carried out with caustic soda and the phenols are liberated by acidification with a mineral acid. Further purification is carried out by distillation.

The authors identified the following phenol derivatives in the various cuts: Carbolic acid, ortho-, meta- and para-cresols, 1, 4, 2-, 1, 3, 4-, 1, 2, 3-, 1, 3, 5-, 1, 2, 4- xyleneols, and isopseudocuminol. Phenol coefficient determinations were performed with different fractions; they are given below for the sake of interest:

Petroleum acid fraction	F.D.A. phenol coefficient
200°C-203°C .....	4.3
212°C-215°C .....	5.9
224°C-227°C .....	11.6
236°C-239°C .....	18.8
248°C-251°C .....	15.3
260°C-268°C .....	16.5
Coal tar acid fraction	
224°C-227°C .....	9.5

It appears that phenolic acids from this source deserve careful consideration as initial materials for the production of disinfectants. It may be mentioned in passing that circular letters mailed by the Shell Development Company refer to formulas for disinfectants with F.D.A. phenol coefficients of the order of 36, prepared with phenolic acids from petroleum.

Other work, mostly in the realm of synthetic phenol derivatives, has been reported in technical and patent literature.

A patent covering tert. amyl-orthocresol was issued to G. W. Raiziss and Le Roy W. Clemence (11). The class of 4-alkyl-2-chlorophenols is the subject of a patent granted to E. Klarmann (12).

K. Heicken (13) studied the bactericidal action of isomeric xyleneols and of their monohalogen derivatives; he found the chlorine and bromine derivatives of the 1, 2, 3-, 1, 3, 5-, and 1, 4, 2- xyleneols to be fifty to seventy, those of the 1, 2, 4-, 1, 3, 2- and 1, 3, 4- xyleneols only fifteen to twenty times as effective as phenol, against *Escherichia coli* and *Staphylococcus aureus* as test-organisms. The

iodine derivatives are not sufficiently soluble to permit their bacteriological examination.

A series of 2-alkyl-4-fluorophenol derivatives was prepared by C. M. Suter, E. J. Lawson and P. G. Smith (14). The following phenol coefficients were determined for the individual members of the series: Ethyl 10, propyl 21, butyl 66, amyl 69, hexyl less than 62. Standing for several months effected a considerable decrease of antibacterial potency.

C. M. Suter and A. W. Weston (15) prepared also a number of 5-alkyl resorcinol derivatives. Their germicidal potency with respect to *Staphylococcus aureus* (at 37° C.) is practically identical with that of the corresponding 4-alkyl resorcinols (previously prepared and studied by other investigators), up to and including the amyl derivatives; above this, they are less efficient. Thus the 5-hexyl resorcinol gave a phenol coefficient of 22, as compared with that of 50 for the respective 4-isomer.

Phenyl resorcinol derivatives are comparatively weak germicides according to C. M. Suter and P. G. Smith (16). With *Staphylococcus aureus* as test-organism (at 37° C.), 4-phenyl resorcinol gave a phenol coefficient of 14, 5-phenyl resorcinol one of less than 12.

Alkylation of resorcinol with high molecular alcohols such as 1-octanol, 1-dodecanol, etc. is claimed to yield compounds suitable for use in the oral cavity. (17)

E. Moness (18) was granted a patent for 1, 3-dihydroxy-4-butyl-6-chlorobenzene (butyl chlororesorcinol); the preparation of the ethyl, propyl, amyl and hexyl derivatives is also mentioned. The subject of a patent issued to W. C. Stoesser (19), is ortho-iodophenyl phenol.

The influence of phenolic compounds upon the sporicidal action of hot water was studied by C. E. Coulthard (20). The addition of the germicide to a suspension of *B. mesentericus* spores was found to intensify the lethal effect of intermittent heating to 80° C. A proportion of 0.25 per cent of para-chloro-meta-cresol was more effective in this

respect than one of 0.5 per cent of phenol or 0.3 per cent of tricresol. The spore suspension was sterilized when heated with a concentration of 1:400 of para-chloro-meta-cresol, for four hours at 80° C., or for one hour at 100° C. Phenyl-mercuric-nitrate in a concentration of 1:25,000 caused sterilization in one hour at 80° C.

Emulsification with sulfonated castor oil of a number of technical tar acids of pure alkyl, aryl, and halogen alkyl phenol derivatives, and of other germicidal compounds, such as resorcinol, salicylic acid, beta-naphthol, creosote and guaiacol, is the subject of a paper by L. Gershenfeld and B. Witlin (21). A 50 per cent sulfonated castor oil was found to be satisfactory for this purpose, provided its pH was within the range of 8.3 and 8.5. The bactericidal potency of the mixtures in terms of the F.D.A. phenol coefficient was directly proportional to the concentration of the active principle. Since no toxicity tests have been performed as yet with these mixtures, the authors recommend their use for general disinfecting purposes only.

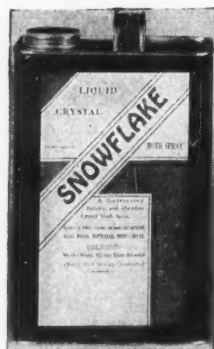
### Quaternary Ammonium Compounds

Considerable research activity appears to be going on in this new field of antibacterial agents. Originally an outgrowth of work on synthetic wetting agents, this interesting chapter on germicides is assuming an increasing importance of its own. As has been reported in the preceding annual reviews, the original and the early subsequent investigations in this field were carried out abroad, notably in Germany; they were followed by the commercial introduction of germicidal agents first in Europe and eventually in this country. However, as far as known, the first systematic studies of the products under consideration were reported at this year's September meeting of the American Chemical Society in Boston, and while already a number of structural relationships between the chemical composition and the antibacterial action are in evidence in some series of the quaternary compounds, further contri-

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butions in this field may be expected in the near future.

R. S. Shelton, M. G. Van Campen and L. Nisonger (22) prepared a series of mono-quaternary ammonium salts. Very interesting results were obtained on the subject of germicidal activity, especially in relation to the chain length of one high molecular weight alkyl group. Of a considerable number of compounds prepared and studied, the cetyl trimethyl ammonium bromide appears to give promise of practical value, particularly as an antiseptic for topical application, because of its pronounced germicidal potency, its comparative freedom from toxic action and lastly, because of the accessibility of the initial materials.

M. T. Leffler and E. H. Volwiler (23) studied the relations between the ring structure of N-dodecyl heterocyclic amines and their bactericidal properties. The heterocyclic compounds prepared may be classified under two group headings, viz., those of the piperidine and those of the morpholine type. In both series, highly potent representatives were encountered which were effective against *Staph. aureus* (at 37° C.) in dilutions of the order of 1:20,000 to 1:50,000, in 10 minutes.

A patent was issued to H. Ulrich and E. Ploetz (24) for quaternary ammonium compounds of the formula  $R_1R_2R_3R_4NX$  in which  $R_1$  to  $R_4$  are aliphatic radicals at least one of which is an alkylol, and another a high molecular weight alkyl group.

The Deutsche Hydrierwerke A. G. received a British patent (25) for quaternary compounds of which alpha-dimethylamino-N-dodecylacetamide methochloride is an example.

Heterocyclic quaternary compounds, such as quinolinium, piperidinium and quinidinium derivatives are the subject of a patent granted to H. Hahl and F. Leuchs (26). Some examples of products covered are: 6-hexyloxy-benzyl quinolinium chloride, N-benzyl-N-dodecyl piperidinium chloride, N-decyl-8-chloroquinaldinium bromide.

There is some evidence as to the interference with the germicidal action of this type of compounds by soap. H. O. Hettche (27) refers to this fact in a paper on the bactericidal action of "Quartamon," a new German bactericide which falls under the classification in question. In fact, it appears that, e.g., in hand disinfection careful attention must be paid to the removal of soap after scrubbing, and prior to immersion in a solution of the quaternary ammonium disinfectant, as otherwise the purpose of the latter application may be defeated due to the neutralizing action of the soap residue.

### Organic Mercury Compounds

Although the number of patented organic mercurials must be very considerable by this time, new patents for compounds of this class are still being issued.

C. N. Anderson received two patents covering aryl-mercury-sulfonamides (28) (29) and derivatives; n-phenyl mercury-beta-naphthalene-sulfonamide is an example of the former; phenyl mercury-ortho-sulfonamidobenzoate and bis-(phenyl mercury)-sulfonamido-phthalate are examples of the latter group.

The same author (30) received also a patent for mercury compounds in which an aromatic mercury group is linked with an imido-group; phenyl-mercury-phthalimide and phenyl-mercury-carbazole are examples.

W. G. Christiansen (31) was granted a patent for aniono-mercuri-1,3-dihydroxy-4-alkyl-6-halobenzenes, e.g., acetoxymercuri-1,3-dihydroxy-4-butyl-6-chlorobenzene. The same author and E. Moness (32) received a patent for mercurated 3-nitro-4-alkyl phenols.

According to a patent issued to M. S. Kharash (33) (34), acidic organo-mercury compounds are converted into their salts with alkyl amines having alkyl substituting radicals with from six to eighteen carbon atoms; such compounds are suitable for use in non-aqueous media.

Mercury compounds of urethane are the subject of a Swiss patent (35).

The properties of mercury lactate are the subject of a paper by C. Digaud (36). Phenylmercuriglycolate has been patented by R. P. Perkins (37). The process of producing pure phenyl mercuric nitrate is described in a patent obtained by J. H. Hibben (38).

R. Hopkinson and A. V. Tolstoochov (39) were granted a patent for dyes obtained by coupling, e.g., diazotized sulfanilic acid with 2-chloro-mercuri-6-methyl phenol.

According to E. Jensen (40), there is no great difference between the growth inhibiting power and the germicidal action in 24 hours of different phenyl-mercury compounds. Phenyl-mercury-acetate, phenyl-mercury-acetate with 0.5 mol. of borax and phenyl-mercury borate show similar efficacy against a variety of organisms, including *B. anthracis*, *Staphylococcus aureus*, *Streptococcus*, *Escherichia coli*, *B. pyocyaneus* and *B. proteus*. With the exception of the thiosulfate, all phenyl-mercury compounds in a 2 per cent glycerol solution sterilized the back of the hand in 1.5 minutes.

J. H. Brewer (41) inquired into the feasibility of sterilization of instruments by means of organic mercurials. Dental burrs were contaminated with *Clostridium welchii*, *Clostridium tetani* and *Clostridium sporogenes*. The mercurials tested and their concentrations were: mercuric chloride 1:1000, mercuriochrome 1:50, merphenyl nitrate 1:1500, metaphen 1:2500, merthiolate 1:1000, mertoxol 1:1000, mercuriolide 1:1000, potassium mercuric iodide 1:1000, meroxyl 1:2000 and mercuric cyanide 1:1000. In sixty experiments none of the mercurials sterilized the instruments and none killed tetanus spores in 24 hours.

### Halogens

The bactericidal action of bromine was studied by F. W. Tanner and G. Pitner (42). A proportion of less than 0.25 parts per million of free bromine was found to be sufficient to kill cultures of *Staph. aureus*, *Staph. albus*, *Escherichia coli* and



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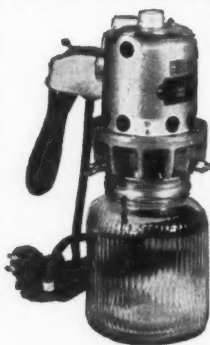
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*Ebertella typhi* in from fifteen to thirty seconds at room temperature. Slightly higher concentrations were required to kill pathogenic yeasts. Mold spores were killed by concentrations of from five to thirty parts per million; spores of aerobic bacteria required from forty to two hundred and twenty parts per million at a pH of 3.5 to 4.0, and from one hundred to over four hundred and fifty parts per million at a pH of 6.8 to 7.2.

In an investigation of the action upon dried anthrax spores of halogens, E. Hailer and U. v. Bockelberg (43) found the toxic effect to follow the order  $I > Cl > Br$ . A solution of free iodine was found to be more effective than one in potassium iodide.

Poly-iodo derivatives of acylaminoacids and their salts are the subject of a patent issued to M. Dohrn and P. Diedrich (44). Their efficacy probably depends upon their ability to liberate iodine. Examples are 3, 4, 5-triiodo-hippuric acid and 3, 5-di-iodobenzoyl-beta-alanine.

### Alcohols

Reference has been made before to the work of P. B. Price on the microbic flora of the skin. The same author (45) carried out an investigation on the subject of alcohol as a surgical skin disinfectant. It is important, according to Price, to use 70 per cent by weight of alcohol, since slight variations from this optimal concentration produce a marked decrease of the germicidal power; thus, 70 per cent by volume of alcohol is said to be almost useless. The "degermation" of skin by alcohol was found to occur in a logarithmic rate. Each minute of exposing the skin to the action of alcohol corresponded to 6.4 minutes of scrubbing with water. The author concludes that the action of alcohol is inherently germicidal and not detergent, since in this concentration, alcohol is not a fat solvent. In another publication Price (46) recommends the following formula as a stable, non-irritating germicide for the skin: Ethyl alcohol 50 per cent, n-propyl

alcohol 20 per cent, water 30 per cent, all by weight.

The role of alcohol in hand disinfection is the subject of a paper by F. Neufeld and O. Schiemann (47).

P. B. Cowles (48) infers a close relationship between the germicidal action and surface tension, from a study of primary, secondary and tertiary alcohols, while U. P. Kokko (49) finds, in agreement with previous observations, that the anti-bacterial (germicidal and inhibitory) power of alcohols increases with the number of carbon atoms, and that among isomers the order of toxicity for bacteria is: primary  $>$  iso- $>$  secondary  $>$  tertiary.

### Dyes

No striking developments were reported from this field. F. W. Tilley (50) studied a number of diphenyl- and triphenyl-menthane dyes and their combinations with phenol and o-cresol, using *Eb. typhi*, *Escherichia coli*, *Salmonella pullorum*, *Salmonella suis* and *Staph. aureus* as test-organisms.

A patent for quaternary phenyl-azo-diamino-pyridine dyes was issued to R. R. Renshaw and E. T. Tisza (51); an example of the class covered is phenyl-azo-2,6-diaminomethylpyridinium methyl sulfate. Pyridine azo-compounds such as 4-butoxypyridyl-3, 5-azo-2', 6'-diaminopyridine, are the subject of a paper by V. Bremer and H. Lippett (52).

Two Swiss patents (53) cover the bactericidal class of azo-phenyl sulfonamides of which thymol-azo-phenyl-sulfoneamide and chloro-metaxylene-azo-phenyl-sulfonamide are examples.

### Organic Acids

Continuing his extensive investigations on the action upon tubercle bacilli of various chemicals, E. Hailer (54) devoted his attention to aromatic acids and found the following simple and substituted acids to be rapidly germicidal in concentrations of from 0.02 N to 0.0025 N: phenyl-propionic, phenoxy-acetic, cresotic (all three isomers), butyryl-salicylic, acetyl-iodo-salicylic, propionyl-creso-

tic and several others. Cinnamic acid was found to be less effective than any of the above mentioned, and acetyl-salicylic acid was less effective than salicylic acid. Benzoic acid and its homologs have weak bactericidal action. A 20 per cent solution of salicylic and phenyl-propionic acids in glycerol shows a high bactericidal potency and is proposed for the treatment of the tuberculosis of the skin.

According to the same author (55), tubercle bacilli show a selective sensitiveness also for the higher aliphatic acids, viz., capric, heptylic, caprylic and nonylic. Of the lower members, formic acid is the most effective. While the activity of the acids increases from acetic to valeric, that of the formic acid is not reached. Chloroacetic acid is another effective compound while of the inorganic acids the sulfurous and thiocyanic acids seem to have a selective action upon the tubercle bacilli.

R. H. Goshorn and E. F. Degering (56) studied the series of alpha- and omega-phenyl-alcanoic acids. A correlation was found to exist between the oil-water distribution and bactericidal action. It is concluded that bactericidal action may be closely related to adsorption. The same (57) authors carried out also bacteriostatic tests with a number of para-substituted phenyl-acetic acid derivatives, using *Escherichia coli* and *Staph. aureus* as test-organisms. Here, too, distribution coefficients were determined in relation to bacteriostatic efficacy. The para-bromo substituted acids were the most effective.

### Arylsulfonamides

Although the indications are increasing that the remarkable therapeutic efficacy of sulfonamide drugs does not depend entirely upon a bactericidal effect, there are reports of a number of investigations which aim to connect bactericidal action in vitro with the chemotherapeutic action in vivo. Thus P. Courmont, A. Morel and E. Perier (58) found that in the presence of sulfanilamide, septazin (benzyl-amino-phenyl-sulfoneamide) and soluseptazine, bacterial growth is

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greatly retarded, but not entirely prevented.

A. Fleming (59) found that 2-(p-amino-benzene sulfonamido)-pyridin in concentrations which are obtained in the animal body, inhibits the growth of pneumococci and hemolytic streptococci in blood, in the absence of leucocytes.

M. E. Hultquist (60) received a patent for amino-aryl-sulfonyl-amino-aliphatic acids and their salts which are claimed to be streptococicides.

### Miscellaneous

Under this heading, reference will be made to publications, patents, etc. which cannot be classified under any of the preceding headings.

W. A. Bittenbender, E. F. Degering and P. A. Tetrault (61) studied the effect of the hydrogen ion concentration upon the anti-bacterial action of a number of commercially available antiseptics. Increasing the hydrogen ion concentration intensifies the action of phenol, merthiolate, hexyl resorcinol, tincture of iodine until a maximum is reached. Metaphen and mercurochrome could not be adjusted to the desired pH, and acriflavine gave negative results. In a paper presented at the Boston meeting of the American Chemical Society (62) this series was extended to comprise other commercial products. Among them Lysol, Amphyl, Chlorazene, Pepsodent Antiseptic and malachite green showed an enhancement of bactericidal potency, as a result of the increase in the hydrogen ion concentration, while negative results were obtained for the concentrations tested of methylene blue, potassium dichromate, sodium nitrite and zinc sulfate.

Because of the importance of the wetting agents from the class of high-molecular alkyl sulfates, it is of interest that, according to P. B. Cowles (63) the growth of Gram-positive micro-organisms was inhibited by compounds of the formula  $R-O-SO_3Na$ , while Gram-negative bacteria were not affected. The lauryl, myristyl and cetyl compounds were the most effective. J. M. Birkeland

and E. A. Steinhaus (64) report inhibition of the growth of Gram-positive bacteria and also of molds in the presence of one per cent of sodium lauryl sulfate, while in the case of Gram-negative micro-organisms, out of twenty species tested, only three were inhibited.

The effect of acids upon the sporocidal action of hot water is the subject of a paper by Th. Sabalitschka and G. Maas (65). Heat resistant earth spores were killed in the presence of one per cent of earth by water of 100° C. containing 0.1 per cent of hydrochloric, phosphoric or formic acids, or 0.25 per cent of salicylic or tartaric acids, or 0.5 per cent of benzoic, citric, para- or meta-hydroxy-benzoic acids, but not by 0.5 per cent of boric acid. In the absence of earth, the same spores were killed by heating the water for a half hour to 100° C. with the addition of 0.015 per cent of hydrochloric, 0.1 per cent of para- or meta-hydroxybenzoic acid, etc.

W. C. Clark (66) investigated a considerable number of ointments containing phenolic germicides, and from this investigation he concluded that little, if any, antiseptic power resided in such preparations, if they were made with fatty bases, unless the concentration of the germicide was high. The paper contains references to different base formulas and to ointments containing phenol, chlorothymol, chloroxylonol, etc.

M. G. Minaeff and R. C. Hughes (67) received a patent for cream or ointment compositions containing a chlorine yielding substance such as sodium para-toluenesulfonechloramide, alkali stearate, free stearic acid and enough tetradecyl, hexadecyl or octadecyl alcohol to prevent crystallization.

A superior antiseptic potency of calomel ointment, containing colloidal calomel, has been established by F. W. Schiller (68) and E. E. Vicher (69).

P. B. Myers received a patent for pectinates of metals such as nickel, copper, silver, etc., which are claimed to produce an antiseptic

effect as ingredients of salves and ointments (70).

Iodocholeate, an adsorption compound, is claimed to be superior to tincture of iodine in the treatment of fungus infections, because of slow release of iodine, according to W. F. Lever (71).

E. Hailer (72) found saturated solutions of lithium and calcium chlorides to be destructive to a pure culture of tubercle bacilli, while sodium chloride was not. Salts of salicylic, meta-cresotic, chloroxylic and chlorothymol-carboxylic acids had noticeable disinfectant action on tubercle bacilli, while those of benzoic, cinnamic, phenyl-propionic and para-chloro-cresotic acids had none. The bactericidal effect is assumed to be due to the acid ion. 0.1 per cent solution of mercuric chloride was not effective against the culture in 10 minutes. Ethyl formate was found to be strongly effective, ethyl acetate and propionate only weakly so. Methyl violet and rivanol were ineffective.

The same author (73) found the following antibacterial agents to be destructive for pure *M. tuberculosis* after three to five minutes of contact: 50 to 80 per cent ethyl alcohol, 60 per cent propyl alcohol, tincture of iodine and a 5 per cent solution of cresol soap (the two latter of the German Pharmacopoeia). The action of mercuric chloride was irregular. Zephriol in concentrations of from 0.1 to 10 per cent and quinosol (5 per cent) were unsatisfactory.

Zinc peroxide was found to be relatively ineffective against *Streptococcus viridans*, *Staph. aureus*, *Escherichia coli*, *Proteus vulgaris*, *Pseudomonas aeruginosa* and spores of *Clostridium welchii*, by B. A. Johnson and F. L. Meleney (74). It was active, however, in destroying or neutralizing the hemotoxins of streptococci and of *Clostridium welchii*.

A patent for a germicidal detergent containing a mixture of buffer salts, soap and the sodium salt of phenyl-phenol, and adjusted to a pH of from 7 to 11, was granted H. O. Halvorson and J. L. Wilson (75).

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Another patent was issued to the same workers for a similar mixture, but containing azochloramide as the germicidal agent (76).

That adequate sanitation is not the general practice in food dispensing establishments would follow from a report of J. C. Geiger (77) who determined the bacterial contamination in "scoops" used in the dispensing of ice cream. Of a large number of such "scoops" examined he found 124 with a bacterial count under 10,000 per cubic centimeter, 226 with one of over 100,000 and 97 with one of over 1,000,000 per cubic centimeter.

### Radiation

The combined action upon spores of heat and ultra-violet light was studied by H. C. Curran and F. R. Evans (78). They observed that spores which survived heat or ultra-violet radiation were sensitized to the particular agent and were destroyed more readily by further application of it than untreated spores. Moreover, many spores which survived lethal ultra-violet radiation were thereby rendered more sensitive to heat. Not all spores were susceptible to sensitization by heat. Also different effects were produced depending upon the sequence of the treatments. The light-heat sequence was the more destructive one. Heat had no appreciable light sensitizing action on spores. Wave lengths of more than 2000 A-units sensitized spores to heat, but those of 1250 to 1600 A-units were more effective.

The potential importance of ultra-violet light in air sanitation is stressed by F. W. Robinson (79). This variety of sanitation is directed against infectious bacteria whose normal portal of entry is the upper respiratory tract.

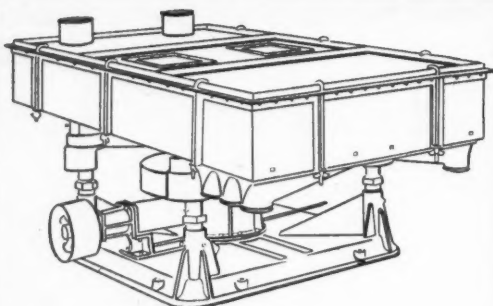
A. L. Smith and C. Melanidi (80) studied the effect of radioactivity upon anthrax spores. Thorium C and Polonium were used as sources of radiation. A lysis of the cultures was produced and the occasional survivors underwent a hereditary attenuation which was transmitted to subcultures. Future work will aim at

applying this technic to the preparation of anti-anthrax vaccines.

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Chicago, Ill.

- (78) H. C. Curran and F. R. Evans; *J. Bacteriol.* 36, 355 (1938).  
 (79) F. W. Robinson; *Ind. Eng. Chem.* 31, 23 (1939).  
 (80) A. L. Smith and C. Melanidi; *Prakt. Acad. Athen.* 12, 361 (1937); *c. A.* 33, 637 (1939).

## Agricultural Insecticides

(From Page 97)

the county farm bureau or the grange. Supplies are secured on a group co-operative plan with a local "co-op" marketing or supply organization acting as purchasing agent. Manufacturers seeking contact with these groups should get in touch with the county agricultural agent whose headquarters are usually at the county seat.

Work on another unsolved insecticidal problem—the discovery of a suitable insecticide for use in combatting the bollweevil in the southern cotton fields—was undertaken a little over a year ago by the Clemson Agricultural College. A substitute was sought for calcium arsenate, which farmers commonly fear to employ due to concern over possible injurious effect on their soil.

In the effort to find a suitable substitute, Clemson college research workers conducted extensive experiments with several different insecticides, both with and without commercial stickers, or spreaders, to determine their toxicity against the bollweevil. The progress report on this project is embodied in the station director's annual report and from it the following excerpts are made:

"In each experiment six different treatments were tested, each treatment being replicated six times on plots of one-twentieth of an acre each. All materials tested were dusts and all applied with rotary hand dusters. Dusting began when infestation reached 10 per cent and continued at intervals of four to seven days, throughout the season, unless the infestation dropped below 10 per cent.

"Three groups of insecticides were tested as follows: (1) calcium arsenate, which was used as a check against the other insecticides in each experiment; (2) two forms of nicotine dusts, one containing nicotine

bentonite, the other nicotine bentonite plus nicotine tannate; and (3) two cryolite dusts, one being a finely ground synthetic cryolite, of which 88 per cent was less than 10 microns in diameter, containing 90.8 per cent sodium fluoaluminate and the other being a coarsely ground natural cryolite of which 35 per cent was larger than 50 microns in diameter, containing 78.3 per cent sodium fluoaluminate.

"Each of these insecticides was tested with and without one or more of the following stickers: (1) A sodium salt of an alkylated naphthalenesulfonate; (2) a monosodium sulfonate of butylphenylphenol; (3) a sulfonated alkylated diphenyl; (4) a commercial brand of synthetic liquid sticker and spreader and (5) a commercial brand of dry gum with a tapioca base. The first four of these sticking agents were thoroughly mixed in with the dry insecticides in proportion of one per cent of sticker by weight. The dry gum was thoroughly mixed with the insecticide in proportion of 5 per cent by weight."

From statistical study of the data the following conclusions were reached:

(1) None of the stickers and spreaders tested increased the effectiveness of calcium arsenate or the nicotine compounds; (2) the commercial synthetic liquid sticker and spreader did increase the effectiveness of synthetic cryolite and made it comparable to calcium arsenate; (3) calcium arsenate and synthetic cryolite with or without stickers, were definitely superior to the nicotine compounds with or without stickers; (4) the nicotine compounds gave very little, if any, boll weevil control; and (5) no significant difference occurred between the use of calcium arsenate and the use of 50-50 calcium arsenate and calcium carbonate mixture.

Continuing, the college report says the following physical properties of the insecticides tested are worthy of report: (1) The size of the particles of the natural cryolite tested was too large, causing an excessive quantity to be put on with very poor coverage; (2) the particle size of the

synthetic cryolite or its cohesiveness, caused it to pack, so that it was extremely difficult to apply it with an ordinary rotary hand duster; (3) the addition of one per cent by weight of any of the stickers and spreaders (except dry gum which was not so tested) caused the synthetic cryolite to be much more easily applied; (4) none of the stickers and spreaders tested had any marked effect on the dusting qualities of calcium arsenate or the nicotine compounds.

Whether the college entomological department and the insecticide dealer can work together in all cases is distinctly open to question, as the insecticide industry is familiar with the liking that some collegians have for these "make it yourself at home and save" plans that have been fostered in recent years by consumer groups. It is quite possible that in some cases manufacturers of agricultural insecticides have complaints on this score which might make cooperation with their local agricultural colleges difficult. Where the college will recommend use of a factory made product, however, produced under careful control and by trained experts in the field, the possibilities of increased sales through cooperative work are great.

## Wax Mixtures

In the analysis of commercial wax-containing products such as polishes the identification of the wax components has proved decidedly difficult and complex. A scheme for the identification of the more commonly used waxes such as spermaceti, beeswax, carnauba, candelilla and montan wax was developed. The precipitation temperatures of the waxes in *n*-butyl alcohol and *n*-butane are proposed as criteria for the detection of carnauba and ozokerite in a mixture of waxes. The quantitative separation involves the isolation of an ethanol-soluble fraction, fatty acids of high and low molecular weight, hydrocarbons, and fatty alcohols of high and low molecular weight. Samuel Zweig and Abraham Taub. *Ind. Eng. Chemistry, Anal. Ed.* 12, 9-13 (1940).

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# Insect Powder Labeling

MANY manufacturers are reported uncertain regarding some labeling requirements for pyrethrum powder and other powdered insecticides under the new regulations of the Food & Drug Administration which will go into effect next September 1. The National Association of Insecticide & Disinfectant Manufacturers has issued various suggestions to its members for labeling these materials. The Association suggested that where the *active* ingredients on a pyrethrum powder (insect powder) label are stated, the form should be as follows:

Active Ingredients:

Pyrethrins ..... —%

Inert Ingredients ... —%

100%

It is not mandatory under the Insecticide Act of 1910 to state the *active* ingredients. A manufacturer has the option of giving the *inert* ingredients and percentage of each if he desires to do so. In this case, the following form should be used:

Inert Ingredients:

Pyrethrum Powder

(other than py-

rethrins ..... —%

In order to avoid assay of every lot of pyrethrum powder put out, and to allow for such deterioration as may take place while the powder is on the dealer's shelf, the Association has suggested that the following type of labeling is probably safest for smaller firms:

Inert Ingredients:

Pyrethrum Powder

(other than py-

rethrins) ..... 99.5%

This latter form of labeling allows for only 0.5 per cent pyrethrins on the label whereas the pyrethrum powder as packed may actually run 0.8 per cent or 0.9 per cent pyrethrins. In other words, the actual powder in the container may be more effective than the label states and much higher in pyrethrins. However, the figure of 0.5 per cent

pyrethrins allows for any deterioration which may take place. Inasmuch as the Food & Drug Administration insists that the pyrethrum powder must conform to the label at the time it is actually *sold over the retail counter*,—and not when it leaves the factory,—this latter form of labeling is recommended for use by smaller companies, and others who do not test every lot of pyrethrum, as the safest method to avoid conflict with the law.

Where the active ingredients are designated on the label and where they consist of pyrethrins alone, the difficulty of such labeling is that an accurate figure for pyrethrins must be stated, a figure which must be equal to or less than the actual pyrethrin content of the powder at the time it is *sold to the consumer*. Inasmuch as pyrethrum powder deteriorates in storage and in packages, deterioration varying with conditions of temperature, light, access to air, etc., this must be calculated or estimated, if it is possible to do so, in stating the active ingredient on the label.

In the labeling of pyrethrum-fluoride roach powders, for example, as a type of mixture containing pyrethrum, the N.A.I.D.M. has advised a style which it states has been approved by the Food & Drug Administration. A 50-50 fluoride-pyrethrum mixture was taken as an example. This was figured as made from sodium fluoride of 96 per cent purity and pyrethrum of 0.9 per cent pyrethrins. An allowance of 0.1 per cent for deterioration in the pyrethrins was made and the label calculated on a basis of 0.8 per cent pyrethrins. On a 50-50 basis, each of these figures were halved and the balance to make 100 per cent taken as inert materials, as follows:

Active Ingredients:

Pyrethrins ..... 0.4%

Sodium Fluoride . 48.0%

Inert Ingredients . 51.6%

Total .....100.0

In calculating a mixture of this type (50-50 fluoride-pyrethrum) for labeling on the basis of a statement of *inert* ingredients, it is of course necessary to know the exact chemical composition of the 4 per cent impurities in the sodium fluoride, which information is not always available. It may consist of sulfates, chlorides, etc. and comprise a list of seven or eight products, entailing a long list under the inert heading. For this reason and because the impurities may vary in each lot of fluoride, it is held to be safer for the average manufacturer to use the above style for fluoride-pyrethrum mixtures, and of necessity take his chances that deterioration will not bring the actual pyrethrins content below the label figure. For safety, it has been suggested that even a wider allowance be made for deterioration and the pyrethrins be stated at 0.3 per cent in the above label instead of 0.4 per cent.

It also has been pointed out that inasmuch as most sodium fluorides contain from 1 to 2 per cent of sodium silicofluoride, and this latter is considered an active insecticide ingredient by the Food & Drug Administration, this should be taken into consideration and stated on the label. The actual label for a roach powder containing fluoride can best be figured out from the analysis of the fluoride as given by the fluoride manufacturer.

— ♦ —

## Soap As a Disinfectant

Common soap is a better germ killer than many more expensive disinfectants, according to Dr. Ernest C. McCulloch, associate professor of bacteriology and parasitology, Washington State College. This was the conclusion drawn from the results of experiments conducted by Dr. McCulloch to determine the most effective disinfectant in preventing the transmission of streptococcus germs from cows to milkers. Soap was found to fulfill the necessary requirements, he said, the experiments showing that for all-around disinfectant purposes, it is highly effective.

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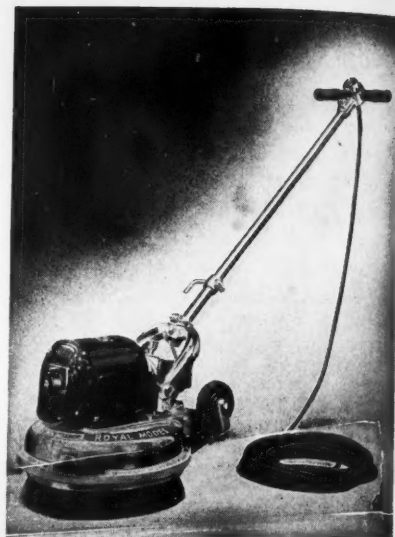
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# News.....

## W. F. Plowfield at Hollingshead

William A. Plowfield has been appointed director of sales of the Industrial Division of the R. M. Hollingshead Corp., Camden, N. J., according to an announcement by Stewart Hollingshead, vice-president. For the past year, Mr. Plowfield has been regional manager of the industrial department at Philadelphia for Hollingshead. Prior to that time, he was president of the Puritan Laboratories of Canada for several years, and before that, manager of the West Disinfecting Co. branch at Toronto. Mr. Plowfield who succeeds C. W. Schwank in charge of the Hollingshead Industrial Division, has had many years experience in the sanitary chemical specialty business with American manufacturers.

## Whalen As Ultra Chem. Pres.

Donald J. Whalen, president of the Karith Chemical Co., Chicago, is the new president of Ultra Chemical Co., Chicago, which is remodeling a two-story building at 4432 South State Street, to be used as a plant for manufacturing floor waxes and household chemicals. The Ultra Chemical Co. will carry on the Chicago operations of Ultra Chemical Works, Paterson, N. J. Installation of equipment in the new plant has already begun and operations are expected to start April 1.

## Insecticide Committee Meets

Principally to lay plans for the insecticide investigational work of the year, the Insecticide Scientific Committee of the National Association of Insecticide & Disinfectant Manufacturers met at the Hotel New Yorker on February 20. A E. Badertscher of McCormick & Co., Baltimore, chairman of the committee, presided. Others who attended were Frank Nelson of Stanco, Inc., Bayway, N. J., Dr. Alfred Weed of John Powell & Co., New York, D. Murphy of Rohm

& Haas Co., Philadelphia, R. Wother- spoon of Derris, Inc., New York, Dr. W. A. Simanton of Gulf Research & Development, Pittsburgh, Dr. F. L. Campbell of Ohio State University, Columbus, and Dr. E. R. McGovern of the Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Washington.

The committee outlined its plans for 1940, particularly the correlation of data accumulated by various laboratories in the industry and at Ohio State University on comparative results with the Peet-Grady Test and the settling mist method, which is to be studied and reported upon at the June meeting of the Association. Crawling insect tests, their possibilities and work done thus far as also discussed. An outline of proposed research was drawn up to be submitted to the Research Program Committee of the Association, including a continuation of insecticide research at Ohio State University.

## Riddiford Adopts Profit Sharing

Riddiford Bros. Inc., Chicago sanitary supply dealers, have put into operation a profit-sharing plan whereby employees hereafter will participate annually in company earnings. At the end of each year, after a reasonable dividend has been declared and funds set aside for reserves, the remainder of company earnings will be distributed to employees. Exact percentages have not yet been determined but the division will be regulated in part by length of the em-

### AUTOMOBILE POLISHES

What's new and what is not new in the automobile polish field . . . the trend in polish types and their composition . . . manufacturers' claims and what they mean . . . a study of this much-discussed subject in the next issue of *Soap & Sanitary Chemicals*.

ployee's service and in part by the total annual wages received. Announcement of the plan was made to employees by President Louis Herzog at the annual employees' dinner in the Hotel Sherman. While profit sharing is common among large industries, Mr. Herzog is of the opinion that his firm, with a payroll of forty, is possibly the smallest ever to make its employees partners in this way. In the first six weeks of 1940, he stated, business showed a 9 per cent increase over the same period last year. Established in 1884, the company is this year fifty-six years old. Two of the three brothers originally comprising the firm have since died but the third, A. B. Riddiford, is still active in the sales department. Mr. Herzog, present executive head of the firm, is also president of the National Sanitary Supply Association.

## A New Varley Boy

Jack and Polly Varley are the parents of a second son, born February 12, according to word from St. Louis, where the father supervises technical problems for Baird & McGuire, Inc., of Missouri. Naming the second Varley boy presented something of a problem in which friends and relatives took their usual active part. Abraham Lincoln Varley was one suggestion and it is reported that Campbell Baird held out to the last for S. Aureus Varley. At the final writing, however, the mother seems to have cast the decisive vote for David George Varley.

## Jones On Balto. Drug Comm.

Lester Jones, McCormick & Co., Baltimore, has recently been appointed chairman of the public improvements and trade interests committee of the Baltimore Drug Exchange.

## Zonite Earnings Down

Zonite Products Co., New Brunswick, N. J., reports a net loss of \$26,903 for the year 1939. During 1938, the company showed a net income of \$49,916, or 6 cents a share.



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### Leather Disinfecting

New methods of disinfecting restricted imported hides to rid them of the virus of foot-and-mouth disease were recently announced at the University of Cincinnati, where the new technique was developed in the leather research laboratory of the University's Institute of Scientific Research. The new disinfecting methods, which have been adopted as standard for the industry by the Bureau of Animal Industry, U. S. Dept. of Agriculture, call for soaking the hides in a solution of one part of sodium bifluoride in 10,000 parts of water, or of one part of sodium silicofluoride in 7,500 parts of water. After 24 hours treatment, the skins are said to be completely disinfected.

### Sanitary Supply Meeting Date

Directors of the National Sanitary Supply Association, meeting in Cleveland in January, selected that city as the place for their next annual convention. The date will be May 20 to 22, according to Secretary E. C. Kratsch. Program details will be announced later.

### Kentucky Insecticide Bill

Strong efforts are being made in the Kentucky Legislature by manufacturers and farming interests to eliminate insecticides, fungicides, and rodenticides from the proposed Food & Drug Law of that state. The bill now before the legislature is H. 446 (same as Sen. 202) which bill is a replacement for H. 83 (Sen. 8). In the bill, the term "drug" includes "insecticides, fungicides and rodenticides" by name. Protests point out that the enforcement of insecticide provisions under a food and drug law set-up is not feasible, and that such a bill would severely handicap manufacturers and entail hardships upon consumers generally. Protests against the inclusion of insecticides may be filed with Dr. O. F. Hume, Chairman, Senate Public Health Committee, Frankfort, Ky.

### Evans E. A. Stone Dead

Evans E. A. Stone, formerly president of William Peterman &

Co., New York, and for fifteen years prior to that advertising manager for Stanco, Inc., New York, died last Sept. 24 at Kerrville, Texas, according to advices just received from



Evans E. A. Stone

there. Mr. Stone who was a former president of the National Association of Insecticide & Disinfectant Manufacturers and active in its affairs prior to 1934, had been in poor health for a number of years past and had lived in various points in Texas since 1935 in an attempt to regain his health. Funeral services and cremation were held at San Antonio, Tex. and burial was in the Stone family plot at Detroit, Mich. He was a graduate of the University of Michigan, class of 1912. He is survived by his wife, Mrs. Llewella Stone, and two children, Evans H. and Alice A. Stone, and a brother, Clarence Stone, a professor of physics at Columbia University.

### Innis, Speiden Gum Literature

Innis, Speiden & Co., New York, have recently issued literature describing the production and sale of five different water soluble gums. The sheets of paper on which the data is printed are perforated so that they can be added to a loose-leaf book.

### Lambert Earnings Down

Lambert Pharmacal Co., St. Louis, reports a consolidated net profit of \$1,261,836 for 1939, equal to \$1.69 a common share. This compares with \$1.277,798 or \$1.71 a share for 1938.

### Du Pont Insecticide Lab.

The Grasselli pest control research section of E. I. du Pont de Nemours & Co., Wilmington, Del., is planning the erection of a new laboratory for research on insecticides and fungicides. It will be a three-story brick and tile building, 38 by 50 feet, containing complete equipment and facilities for applying chemicals to insects and fungi and for rearing test insects. Special chambers will be provided for testing both stomach and contact insecticides for chewing and sucking pests, and fully equipped rooms will be provided for chemical and physical studies on insecticides and fungicides and pest control problems. The new laboratory, which is expected to be completed in July, will be in charge of Dr. Wendell H. Tisdale, who for the past six years has headed the pest control research program of the Grasselli chemicals department.

### Helena Whelan Joins Prentiss

Miss Helena Whelan, manager of the insecticide department of J. L. Hopkins & Co., New York, for the past five years, has recently joined the insecticide department of R. J. Prentiss & Co., New York. Miss Whelan has been particularly active during the past eight years in developing and standardizing basic products used in pest control work.

### King Drops MGK Post

G. A. N. King, executive executive in the McLaughlin-Gormley-King Co., insecticide raw materials, Minneapolis, recently resigned his office as treasurer and his position as purchasing agent for the company. He will continue to serve as secretary.

### Arrest Insecticide Seller

Hoffman Potter, Potter Manufacturing Co., insecticides, Bloomfield, N. J., was recently arrested on a charge of selling poison without labeling it as such. The insecticide was said to contain sodium fluoride, the complaint being made by the New Jersey State Board of Pharmacy. Mr. Potter has been released in \$1,000 bail to await Grand Jury action.

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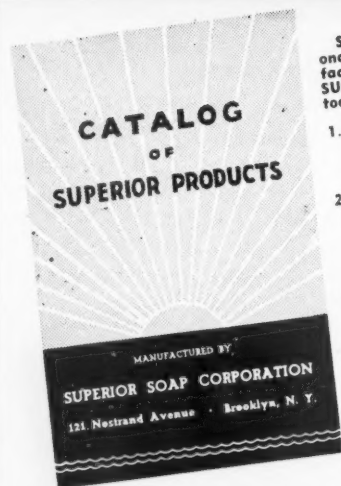
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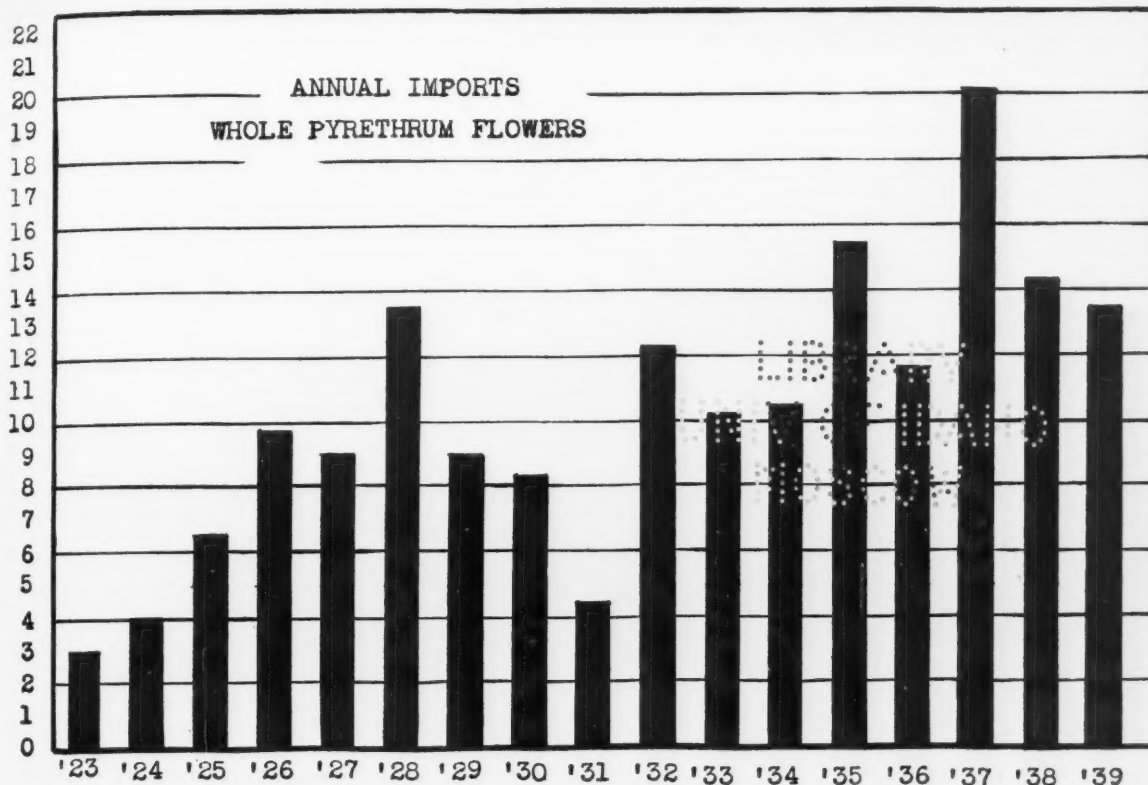
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#### Cite Shoe Polish Product

George J. Kelly, Inc., manufacturer of shoe polish pastes, Lynn, Mass., recently signed a stipulation with the Federal Trade Commission that it will discontinue representations in advertisements tending to convey the impression that its paste product is composed of carnauba wax and turpentine, when such is not true. The company also agreed to cease representing that a self-service package or container which it furnishes dealers who purchase its product, is patented.

#### Error in Ampion Address

We should like to correct an error which appeared in the address of the Ampion Corporation, appearing in that company's advertisement in the February issue of *Soap and Sanitary Chemicals*. The address read "Long Island" instead of "Long Island City."

#### Malaya Derris Exports Up

Exports of derris root from British Malaya to the United States rose sharply during the first nine months of 1939 and surpassed the

Imports of pyrethrum into the United States during 1939 amounted to 13,569,400 pounds, valued at \$3,173,635. This compares with 14,256,144 pounds valued at \$2,485,820 imported during 1938. The fact that pyrethrum prices were higher during 1939 is emphasized by these figures. Imports in 1939 were lower in volume than in 1938, but their value was almost \$700,000 greater. It may be seen by the accompanying chart that although imports in 1939 were lower in tonnage than for the previous year and substantially below those for 1937, they were only exceeded in volume by figures for two other years, 1928 and 1935. It is a natural expectancy that following a heavy import year the next year's receipts will fall off due to the necessity of liquidating carry-over stocks. Figures on the left hand side of the above chart are in millions of pounds.

trade done in that material for the whole year of 1938. For the first nine months of 1939, exports to the United States totaled 1,282,204 pounds valued at \$84,963. This figure accounts for over 50 per cent of total derris exports from British Malaya during that period and compares with total 1938 exports to the United States of 721,840 pounds valued at \$55,793.

#### Sterling Products Earnings Up

Sterling Products, Inc., sanitary chemicals, Easton, Pa., reports a net income of \$9,140,026 for 1939, equivalent to \$5.25 each on 1,740,871 shares of common stock. This compares with a net income of \$8,741,-

363, or \$5.10 each on 1,712,877 shares for 1938.

#### Felton Executive Home

Louis Gampert, vice-president, Felton Chemical Co., Brooklyn, N. Y., has returned to his office after a five week Florida vacation with Mrs. Gampert. Both Mr. and Mrs. Gampert are fishing enthusiasts and report fine luck on their fishing trips off the Florida Keys.

#### Insecticide Co. Moves

Ant-B-Gone Co., insecticide manufacturer, Los Angeles, has moved to different quarters at 2329 Beverly Blvd.



## A New Departure In Crutcher Performance

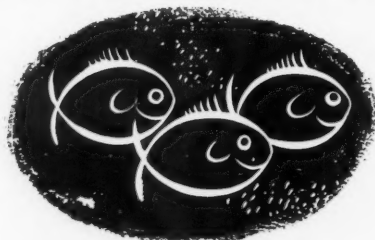
The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.



## HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"  
265 46th STREET BROOKLYN, N. Y.

## For Better Processing



## FISH OILS

Filtrol Products are unusually effective in treating fish oils—they not only bleach to the maximum degree but also retard the effect of catalyst "poisons". Because of the chemical treatment in their preparation Filtrol Products have a high order of activity and are free from earthy contamination.



FILTERING MATERIAL FOR  
DECOLORIZING AND PURIFYING

## FILTROL CORPORATION

GENERAL OFFICES: 315 W. FIFTH ST., LOS ANGELES, CALIFORNIA  
PLANTS: VERNON, CALIFORNIA; JACKSON, MISSISSIPPI

We announce development of new type soap colors

## PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send  
for testing samples.*

## PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters  
799 Greenwich St. New York City  
Cable Address: "Pylamco"

## TETRA SODIUM PYRO PHOSPHATE

*Crystalline-Anhydrous*

### Alkalies

Paradichlor benzene  
Carbon Tetrachloride  
Tri Sodium Phosphate

We are in a favorable position to work with you on your requirements for these and other chemicals used in the manufacture of soaps, detergents and sanitary products. Why not check with us?

## JOHN A. CHEW, INC.

60 East 42nd Street New York  
Phone: MUrray Hill 2-0993

### Insecticide Booklet

Among other things, "Ordinary insecticides or germicides are of little value against fleas." It is also news to the insecticide industry that tincture of green soap is the best flea killer. At least this is only a small part of the "information" on insect control included in a booklet on this subject put out under the title, "Unhidden Guests," by a physician-writer who conducts a syndicated health column in newspapers. The booklet is published by Dr. William Brady, 265 El Camino, Beverly Hills, Calif. Any insecticide manufacturer who wants a few good belly laughs can send ten cents to this doctor and get a copy. The booklet carries no date, but judging from the information which it contains, it could have been written some time during the Civil War.

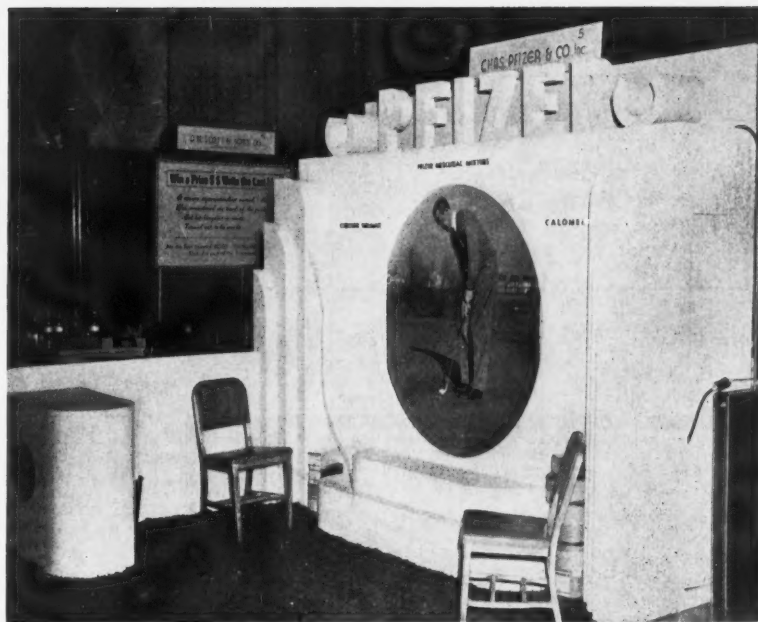
### Error on Tar Acids

J. H. Carpenter of the Koppers Co., Pittsburgh, author of the paper on "Tar Acids" which was read before the recent meeting of the National Association of Insecticide & Disinfectant Manufacturers in Washington, and published beginning on Page 113 of February SOAP, points out a serious printer's error in our published version. Due to the omission of a line, the first paragraph on page 115 is incorrect. As a matter of record, states Mr. Carpenter in a letter to SOAP, the first two sentences of the paragraph in question should read as follows:

"The ideal cresylic acid for technical cresol compounds or Bureau of Animal Industry compounds, is the one giving the required coefficient and solubility with the minimum cost of soap. Domestic manufacturers offer several types of cresylic acids for cresol compounds, i.e. those composed mostly of cresol, those with equal mixtures of cresols and xylenols, and those composed mostly of the xylenols or higher boiling acids."

### Warns of Beetle Spread

A. S. Hoyt, assistant chief of the Bureau of Entomology, U. S. Department of Agriculture, warns that eventually every part of the United



### Insecticides at Turf Show

Displays of insecticides and fungicides claimed a large share of attention at the 14th annual Turf Conference and Equipment Show held by the Greenkeeping Superintendents' Association at the Hotel New Yorker, New York, February 6-9. C. B. Dolge Co., Westport, Conn., maintained a booth in which was exhibited the company's "Dolco" wax, "Dolco" tile cleaner, and "Banjo" soap dispenser. A drawing was held in which a portable radio was given as the prize. Graselli Chemical Dept. E. I. du Pont de Nemours & Co., Wilmington, Del., showed an attractive display on Japanese beetle control, and illustrated the life history of that insect. The U. S. Department of Agriculture also showed pictures and displays on the life history of the Japanese beetle, as well as methods for restricting its spread. Among other exhibitors were: Goulard & Olena, New York, with a display of "Go-Klenz" golf

ball cleaner, dry and liquid weed killers and moth-deodorants; Fertl-Soil Co., Rahway, N. J., displaying "Magikill" ant bait and fungicides, and Mallinckrodt Chemical Works, St. Louis, with a display of mercury salts for fungus growth, "Calogreen" and "Calo-Clor."

Also maintaining a booth devoted to materials for fungus growth was Chas. Pfizer & Co., New York, with various mercurial mixtures. Soicide Laboratories, Upper Montclair, N. J., exhibited several of the "TaT" brand of products, i.e., ant bait, ant traps, roach traps and bait, roach powder, mothproofing material, etc. General Chemical Co., New York, chose beetle control as the theme of its exhibit, with a huge reproduction of a beetle and a map showing the spread of the Japanese beetle. Chipman Chemical Co., Bound Brook, N. J., had a booth in which it displayed its many insecticide, fungicide and weed killers.

States where the Japanese beetle can find living conditions will be faced with the problem of living with this insect. The warning was given at a public conference in Washington, February 27, to consider the advisability of withdrawing Federal quarantine against the Japanese beetle and the

ending of Federal cooperation with the states for its suppression. Earl G. Brewer, chief of control of the beetle, traced its growth since 1919 and confirmed statements that it was just a question of time when the beetle would spread to the rest of the country.

DISINFECTANTS		SOAPS		FLOOR	
PINE OIL	COAL TAR	LIQUID	CLEAR BASE	WAXES	CLEANERS
CRESOL		POTASH OIL	POWDERED		SCRUBS
COMPOUNDS		ALCOHOL (U.S.P.)		SOAP	POWDERS
<b>PECK'S PRODUCTS COMPANY</b>					
KANSAS CITY		ST. LOUIS, MO.		NEW YORK	

**Valencia Pumice**

Reg. U.S. Pat. Off.

**7s THE PUMICE for**

Powder  
Paste  
Bar

Mechanic type soap where an abrasive is desired.

*Write for samples and 12 page booklet of information*

**BARNSDALL TRIPOLI CORPORATION**  
**PUMICE DIVISION**  
*(Subsidiary Barnsdall Oil Co).*  
**SENECA, MISSOURI, U. S. A.**

**DAN-DEE WAX** *for the trade!*



You can sell Dan-Dee Floor Wax with definite assurance that it meets approved specifications for proper floor protection.

Water Proof  
Tougher, Heavier  
Body yet Pliable  
Higher Gloss

**PRIVATE LABELS SUPPLIED**

Specially Priced for Drums, 1/2 Drums and 5 Gal. Cans

FULL DETAILS—GENEROUS SAMPLES AVAILABLE UPON REQUEST.

**TWIN CITY SHELLAC CO., Inc.**  
340 FLUSHING AVENUE      BROOKLYN, N. Y.  
*Also Manufacturers of Liquid and Paste Wax*



**HOCKWALD'S DISPENSERS**

No. 1N Wall TypeNo. 2N Basin Type

All parts replaceable including glass globes. Can be disassembled in two minutes without mechanical skill, yet when in operation it is securely locked together. No cement or plastics used in any part of the machine.

WRITE FOR DESCRIPTIVE LITERATURE AND PRICES

**Hockwald Chemical Company**  
135 Mississippi Street  
San Francisco, Cal.

LARGEST PACIFIC COAST MFR. OF POTASH SOAPS AND SANITARY PRODUCTS



## Sanitary Supply Selling

(From Page 94)

have very good reasons. If they are satisfied with their present sources and you are not getting any of the business, it is mostly a case of wait, that is unless you sell for a price-cutting outfit which makes any kind of a price to break in. And in this latter case, I find that where goods at cut prices are offered to push out something now being used, that mostly these cheaper materials are low-grade products. Some buyers are fooled by them, but on the whole I have found that the majority of purchasing agents believe that you get what you pay for. I find also that some firms which cut prices to break in on an account, may offer and deliver their regular goods at first, but later substitute lower grade materials, probably in the hopes that this will not be detected. Although this may later be discovered and the chiseler thrown out, it makes tough competition for the salesman for the firm which sells only regular standard materials.

A few matters of interest regarding selling certain products come to mind. In recent years, I have found it more difficult to sell sweeping compound. This used to be a big item in many of the factories and some of the schools in my territory. But owing to a cut in school budgets, every penny is being saved. One school superintendent told me that he used to spend \$250 per year for sweeping compound, but now uses just wet sawdust. The same is true in many factories where they have substituted sawdust. Some have told me that the fire authorities now forbid them to use an oil sweep compound on wooden floors.

Some of the large oil companies, I find, have been growing more active especially in the field of disinfectants and some cleaning soaps. They offer materials of high quality at prices far below anything which the sanitary supply houses in my territory can offer. They sell in one and five gallon cans at prices which are lower than my figures for disinfectants in drums. Sometimes their soap prices to consumers are below the levels at

which local jobbers can buy. This competition is noted mostly in the case of large public buildings, schools, town and city departments, and even on some of the larger farms. Of course, the oil companies give no service along with the materials as do the sanitary supply houses. They do not act as teacher, demonstrator, and salesman all in one as I am compelled to do. But nevertheless, they offer low price and high quality, and this is difficult competition to overcome.

I have been asked how the sales of sanitary products can be increased. I suggest more educational work, more advertising to the factories, schools, hotels, and others who buy our goods. I believe that a regular campaign of education on sanitation and sanitary materials, particularly by the older established houses, is sadly needed. We need lots of propaganda to convince the skeptics that this business is not a racket just because a few racketeers have chiseled their way into the field. I think that more booklets and leaflets and letters should be sent out to follow up salesmen's calls, and to prepare the way for salesmen, and the salesmen should be kept posted on what is being done and get a copy of all of it.

Much more remains to be said on the subject of sanitary supply selling from the salesman's point of view, and I hope to write further on the same subject in the near future.

### Insecticide Analyses

A collaborative study was made of the determination of rotenone in derris and cube powder by the chloroform-extraction or crystallization method and by the Jones titration method. The former gave good results on both derris and cube samples. Several of the collaborators experienced difficulty with the second method, which will be studied further.

A collaborative study was made of the assay of pyrethrum powder and of pyrethrum extracts in mineral oil: For pyrethrin I by Seil's method and by the mercury-reduction method; for pyrethrin II by a

method consisting essentially in rendering the residue from the steam distillation of the Seil method (or the aqueous residue from petroleum-ether extraction of the mercury-reduction method) alkaline with sodium bicarbonate, extracting with chloroform, which is then discarded, acidifying with hydrochloric acid, saturating with salt, extracting with ether, evaporating the ether, dissolving with residue in neutral alcohol and water and titrating with 0.02 normal sodium hydroxide solution to a phenolphthalein endpoint. One cc. of 0.02 normal sodium hydroxide solution equals 0.00374 gram of pyrethrin II.

On pyrethrum powder both methods gave results agreeing fairly closely, though some variations were too great. On the mineral-oil extract, the mercury-reduction method gave more consistent results for pyrethrin I than the Seil method. Results for pyrethrin II showed rather wide variation, probably because of incomplete removal of the esters in the preliminary steam distillation. J.J.T. Graham. *J. Assoc. Official Agr. Chem.* 22, 572-8 (1939).

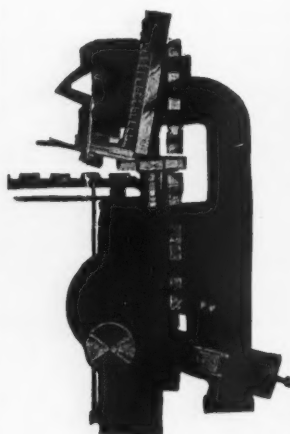
### Phoenix Cap 50th Year

Phoenix Metal Cap Co., Chicago, is this year observing its fiftieth anniversary. Founded on Jan. 15, 1890, as the Safe Glass Co., the firm passed through successive mergers and re-organizations which culminated in the present set-up. In the first of a series of historical articles in the January issue of the "Phoenix Flame," company house organ, editor H. J. Higdon sketches development of the use of mechanically-applied metal closures in America from their first display by a French inventor at Chicago's Columbian Exposition of 1893.

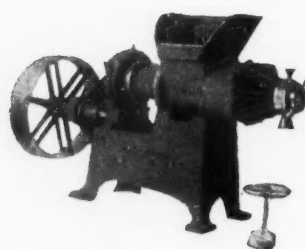
### New Plant for Penn Salt

Pennsylvania Salt Manufacturing Co., Philadelphia, has purchased 50 acres of ground on the Delaware River, Cornwells Heights, Pa., on which it will erect a new \$2,000,000 plant. The plant will replace the present Philadelphia operations at Delaware and Oregon Aves.

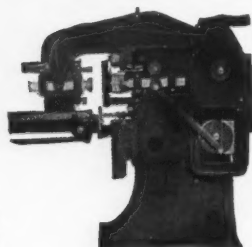
# Special Offerings of SOAP MACHINERY Completely Rebuilt!



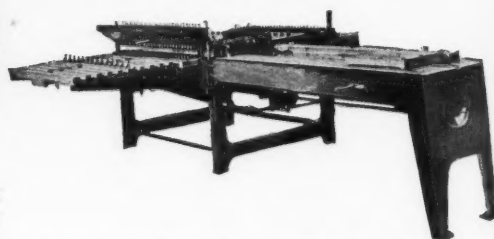
**H-A SOAP MILL**  
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



**4 JONES AUTOMATIC**  
combination laundry and toilet soap presses. All complete and in perfect condition.



2 Automatic Power Soap Cutting Tables.

Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.

## INVESTIGATE THESE SPECIAL BARGAINS

Johnson Automatic Soap  
Chip Filling, Weighing  
and Sealing Machines  
for 2 lb. and 5 lb. Pack-  
ages guaranteed in per-  
fect condition.

### ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H-A Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulverizer.

National Filling and Weighing Machines.

Send us a list of your surplus equipment—we buy separate units or complete plants.

## NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO

Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

## Classified Advertising

**Classified Advertising**—All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to **Classified Advertisements** with Box Number, care of *Soap*, 254 West 31st St., New York.

### Positions Wanted

**Insecticide Specialist**; recent college graduate in Entomology-Chemistry. One year's experience with Rotenone, C.P. and technical Derris extract and Pyrethrum Concentrates. Assays and biological testing. Desires position with chance for advancement. Address Box No. 763, care *Soap*.

**Soap Maker and Chemist** with long experience in the manufacture of all kinds and grades of soaps and soap products. Address Box No. 771, care of *Soap*.

**Chief Chemist**, Chemical Specialties; soaps and soap products, synthetics, cleaning compounds and cleansers for entire industry and sanitary field; water treatment and softening; soap-type lubricants; corrosion-prevention; polishes; emulsions. Development manufacture, service and technical advertising. Years of successful background. Address Box No. 767, care *Soap*.

**Sales Representative**: Man with a thorough knowledge of the sanitary chemical industry, having a splendid following in the eastern and central states, catering to the hotel, restaurant, bar, paper and janitor supply jobbers. Willing to operate on a small drawing account against commissions. Address Box No. 774, care *Soap*.

**Entomologist**: Specialist in both economic and systematic entomology. Masters in entomology at Cornell. Desires connection with Insecticide firm or laboratory. Address Box No. 768, care *Soap*.

**Position Wanted**: As manager, assistant manager, or sales. Gentile, age 39. Experienced in janitor or sanitary supplies. Fully qualified to take responsibility of sales, purchasing and management with existing organization in janitor supply lines. Future possibilities important. Will go anywhere. Now employed in industrial city in middle west. Would consider working partnership. Address Box No. 769, care *Soap*.

**Sales Representative**: Man with following on Pacific Coast desires to represent manufacturer of fine and medicinal chemicals in that territory. For further details communicate with Box No. 746, care *Soap*.

## FOR 1940 PROFITS

- 1—Save Money
- 2—Save Time
- 3—Definite Guarantee
- 4—Expert Reconditioning.

*Buy Consolidated's low priced equipment*

### SELECTED SPECIALS

- 2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll.
- 1—Jones Vertical automatic Soap Press.
- 3—Houchin Plodders, 10", 8".
- 2—Pneumatic Scale Carton Packaging Units.
- 2—Automatic Soap Wrapping Machines, electric glue sealers, adjustable.

Crutchers  
Soap Kettles  
Powder Mixers  
Granite Mills  
Plodders  
Slabbers

Foot and Automatic  
Soap Presses  
Cutting Tables  
Pulverizers  
Soap Pumps  
Soap Chippers

Filter Presses  
Soap Frames  
Powder Fillers  
Labellers  
Tanks  
Boilers

*Send for New Illustrated Circular*

### CONSOLIDATED PRODUCTS CO., INC.

15-21 PARK ROW  
BARCLAY 7-0600



NEW YORK, N. Y.  
Cable Address: Equipment

*We buy your idle Machinery—Send us a list.*



If you demand rigid "hard-to-reach" specifications on the **FATTY ACIDS** for your soaps and cosmetics . . . "ASK WECOLINE."

Wecoline is particular about its quality . . . particular that its products shall be known for high standards of refining and fractionation.

### DISTILLED FATTY ACIDS

*Exceptionally Pure and White*

Our unique facilities and experience are at your service for specially processed vegetable fatty acids and refined oils.

*Write for Booklet "30 Years of Progress"*

*Special Fatty Acids: STEARIC—LAURIC—CAPRIC—WHITE OLEIC*

COCONUT

TEASEED

LINSEED

PALM

CORN

SOY BEAN

COTTONSEED

**WECOLINE Products, Inc. BOONTON, N.J.**  
Sales Offices: NEW YORK . . . CHICAGO . . . BOSTON



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## Positions Open

---

**Industrial Maintenance**—The largest by far specialized chemical business producing under their own roofs—everything from the Lithographed Can to "What goes in it"—

Requires the services of several two-fisted high-class salesmen for local and out-of-town territories (New York - Boston - Philadelphia - Washington - Rochester).

Who are familiar with and have a clientele among buyers of floor waxes, disinfectants, insecticides, liquid hand soaps, scrub soaps, etc.

The men whom we are seeking are probably now employed but being ambitious and perhaps visionary look to the future with misgivings. Advancement "if you have what it takes" should be rapid.

Our compensation plan is based on salary plus bonus—drawing account against commissions. (Your choice.)

Our general requirements are—experience which is essential, good appearance (must look and talk success), educational background, above average, age 30 to 45. Clean record. (We require a bond.)

Frankly, this is the best deal in the industry today, therefore, to expedite interview, give us full details and snapshot (which will not be returned). Our organization has been advised, therefore write freely, in confidence.

Address W. F. P., P. O. Box 3443, Philadelphia, Pa.

**Wanted:** Experienced soap boiler for a soap plant. Permanent position. Write giving full details to Box 775, care *Soap*.

**Sales Manager:** A specialty chemical company requires the services of a high-class sales manager and several salesmen for local and out of town territories, who are familiar with and have a clientele among buyers of floor waxes. Our general requirements are: experience which is essential, good appearance and fair educational background. Frankly, this is one of the best fields in the industry today and to expedite interviews, please give full details. Our organization has been advised, therefore write freely and in confidence. Address Box No. 776, care *Soap*.

**State—Sales Manager:** Established Southern Manufacturer of high quality Disinfectants, Insecticides, Soaps and Kindred Products selling direct to Institutions, Schools, Industrials, Buildings, etc. has opening for one experienced man for each Mid-Western State and some Southern States. This expansion requires men with successful selling experience in this line only, as well as capable of training Salesmen in their State. Profit-Sharing Basis allowing liberal commissions for your Salesmen. Replies confidential. Address Box No. 772, care of *Soap*.

**Eastern Seaboard** manufacturer wants salesmen to cover East and Mid-West with line of disinfectants, soaps, waxes, polishes and specialties. Commission. Write full details. Address Box No. 777, care *Soap*.

**Engineer:**—Large firm desires sales engineer and service manager well acquainted in the textile industry, having a knowledge of composition and use of textile soaps and other specialties in textile mills. Give full details to Box No. 764, care *Soap*.

**Salesman:** Man wanted by manufacturer with experience in the sale of metal cleaning materials to industrial plants. Give details on past experience, salary, etc., to Box No. 765, care *Soap*.

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## Miscellaneous

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**Want to Buy Cans**—Discontinued Flit style—pints and quarts—lithographed or plain. Address Box No. 770, care *Soap*.

**Factories installed** or remodeled. Instruction profitable laundry and toilet processes and preparations, perfumes, glycerine recovery analyses. Address English or Spanish. Box No. 773, care *Soap*.

**For Sale:** A well established janitor supply house located in large industrial city in Ohio. Now selling various hospitals, hotels, schools, department stores, public buildings, factories, etc. Have six well trained salesmen and an experienced sales manager. Owner has been ill for some time and wishes to retire from the business. This business can be purchased for less than \$10,000. If interested write to Box 762, care *Soap*.

**Liquidation from Soap Plant:** Jones automatic soap press; foot presses; Proctor soap dryer; 4 roll stone mill; Johnson carton sealers; automatic powder fillers; crutchers; plodder; 6 knife chipper; cutting table; frames; filter presses; mixers; boiling kettles; etc. Send for Liquidation Bulletin No. 402. Stein Equipment Corp., 426 Broome Street, New York City.

**For Sale:** Proctor soap chip dryer with five chilling rolls; can be operated for inspection. Address Box No. 766, care *Soap*.

**Wanted for User:** Soap chip dryer; filter press; foot and automatic soap press; crutcher; plodder; milling roll; dry powder mixers. What have you. Address Box No. 749, care of *Soap*.

**Floor Brushes**—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

# Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, on page 140 for page numbers. "Say you saw it in SOAP."

## ALKALIES

American Cyanamid & Chemical Corp.  
John A. Chew, Inc.  
Columbia Alkali Co.  
Diamond Alkali Co.  
Dow Chemical Co.  
Eastern Industries  
Hooker Electrochemical Co.  
Innis, Speiden & Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.  
Warner Chemical Co.  
Welch, Holme & Clark Co.

## BULK AND PRIVATE BRAND PRODUCTS

Ampion Corporation (Sanitary Supplies)  
Associated Chemists, Inc. (Insecticides)  
Baird & McGuire, Inc. (Disinfectants)  
Buckingham Wax Corp. (Wax Products)  
Candy & Co. (Floor Products)  
Chemical Mfg. & Dist. Co. (Soaps and Sanitary Supplies)  
Chemical Supply Co. (Disinfectants, etc.)  
Clifton Chemical Co. (Sanitary Supplies)  
Cole Chemical Corp. (Sanitary Supplies)  
Davies-Young Soap Co. (Potash Soaps)  
Duke Paint & Varnish Co. (Floor Products)  
Empire Chem. Prods. Co. (Sanitary Supplies)  
Federal Varnish Co. (Floor Products)  
Fuld Bros. (Sanitary Supplies)  
James Good, Inc. (Sanitary Supplies)  
Harley Soap Co. (Soap Specialties)  
Higley Chemical Co. (Floor Seal)  
Hockwald Chemical Co. (Sanitary Supplies)  
Hysan Products Co. (Sanitary Supplies)  
Koppers Co. (Disinfectants)  
Kranich Soap Co. (Potash Soaps)  
M. & H. Laboratories (Floor Waxes)  
Onalim Co. (Shampoos)  
John Opitz, Inc. (Insecticides)  
Peck's Products Co. (Sanitary Supplies)  
Philadelphia Quartz Co. (Detergents)  
Reilly Tar & Chem. Co. (Floor Seals)  
Geo. A. Schmidt & Co. (Soaps)  
Superior Soap Corp. (Soaps and Waxes)  
Sweeping Compound Mfrs. Co. (Sweeping Compound)  
Twin City Shellac Co. (Wax Products)  
Uncle Sam Chemical Co. (Sanitary Supplies)  
T. F. Washburn Co. (Floor Products)  
White Tar Co. (Disinfectants, etc.)  
Windsor Wax Co. (Wax Products)

## CHEMICALS

American-British Chemical Supplies  
American Cyanamid & Chemical Corp.  
Chemical Mfg. & Dist. Co.  
John A. Chew, Inc.  
Columbia Alkali Co.  
Cowles Detergent Co.  
Diamond Alkali Co.  
Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Eastern Industries  
General Chemical Co.  
Hooker Electrochemical Co.  
Industrial Chemical Sales Div.

Innis, Speiden & Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Philadelphia Quartz Co.  
Rohm & Haas Co.  
Reilly Tar & Chemical Corp.  
Solvay Sales Corp.  
Standard Silicate Co.  
Jos. Turner & Co.  
Victor Chemical Works  
Warner Chemical Co.  
Welch, Holme & Clark Co.

## COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)  
American-British Chemical Supplies  
American Cyanamid & Chemical Corp.  
Baird & McGuire, Inc.  
Barrett Co.  
Innis, Speiden & Co.  
Koppers Co.  
Mirvale Chem. Co.  
Monsanto Chemical Co.  
Reilly Tar & Chemical Co.  
White Tar Co.

## COLORS

Fezandie & Sperrle  
Interstate Color Co.  
Pylam Products Co.  
Tamm's Silica Co.

## CONTAINERS AND CLOSURES

American Can Co. (Tin Cans and Steel Pails)  
Anchor-Hocking Glass Corp. (Closures and Bottles)  
Continental Can Co. (Tin Cans)  
Crown Can Co.  
National Can Co. (Cans)  
Owens-Illinois Glass Co. (Bottles and Closures)  
Williams Sealing Corp. (Closures)  
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

## DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.  
Fuld Bros.  
Garnet Chem. Corp.  
Hysan Products Co.

## INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.  
Associated Chemists, Inc.  
Rohm & Haas Co.  
U. S. Industrial Chemical Co.  
Whitmire Research Corp.

## MACHINERY

Anthony J. Fries (Soap Dies)  
Houchin Machinery Co. (Soap Machinery)  
Huber Machine Co. (Soap Machinery)  
R. A. Jones & Co. (Automatic Soap Presses and Carbonating Machinery)  
Karl Kiefer Machine Co. (Filling Machinery)  
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)  
Mixing Equipment Co. (Tanks, Mixers)  
Proctor & Schwartz (Dryers)  
C. G. Sargent's Sons Corp. (Dryers)  
Sprout, Waldron & Co. (Mixing, Conveying, etc.)  
Stokes & Smith Co. (Pkg. Machy.)

# Raw Material and Equipment Guide

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, on page 140 for page numbers. "Say you saw it in SOAP."

## MACHINERY, USED

Consolidated Products Co.  
Newman Tallow & Soap Machinery Co.

## MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)  
Anchor-Hocking Glass Corp. (Metal Caps)  
Barnsdall Tripoli Co. (Pumice—Tripoli)  
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)  
The Fay Co. (Floor Machines)  
Filtrol Corp. (Purifying and Decolorizing Clay)  
Flour City Brush Co. (Brushes)  
Hercules Powder Co. (Pine Oil and Rosin)  
Industrial Chemical Sales Div. (Decol. carbon, Chalk)  
Innis, Speiden & Co. (Fumigants)  
Koppers Company (Coal, Coke, Roofing Materials)  
Lenape Trading Co. (Waxes)  
Michel Export Co. (Synthetic Detergents)  
Pennsylvania Refining Co. (White Oils)  
Pylam Products Co. (Lathering Agent)  
Reilly Tar & Chem. Co. (Preservatives)  
Tamms Silica Co. (Silica—Volcanic Ash)  
U. S. Industrial Alcohol Co. (Alcohol)  
U. S. Industrial Chemical Co. (Solvents)  
Victoria Paper Mills Co. (Toilet Tissues)

## OILS, FATS, AND FATTY ACIDS

T. G. Cooper & Co.  
Eastern Industries  
Emery Industries, Inc.  
Independent Mfg. Co.  
Industrial Chemical Sales Div.  
Leghorn Trading Co.  
Newman Tallow & Soap Machinery Co.  
Orbis Products Corp. (Stearic Acid)  
Wecoline Products Co.  
Welch, Holme & Clark Co.

## PARADICHLOROBENZENE

John A. Chew, Inc.  
Dow Chemical Co.  
E. I. du Pont de Nemours & Co.  
Hooker Electrochemical Co.  
Monsanto Chemical Co.  
Niagara Alkali Co.  
Solvay Sales Corp.  
Jos. Turner & Co.

## PERFUMING MATERIALS

American-British Chemical Supplies  
Aromatic Products, Inc.  
Ph. Chaley, Inc.  
Compagnie Parento  
Dodge & Olcott Co.  
Dow Chemical Co.  
P. R. Dreyer Inc.  
E. I. Du Pont de Nemours & Co.  
Felton Chemical Corp.  
Firmenich & Co.  
Fritzsche Brothers, Inc.  
General Drug Co.  
Givaudan-Delawanna, Inc.

Magnus, Mabee & Reynard, Inc.  
Monsanto Chemical Co.  
Norda Essential Oil & Chemical Co.  
Orbis Products Corp.  
Rifa—New York, Inc.  
Schimmel & Co.  
Ungerer & Co.  
Van Ameringen-Haebler, Inc.  
Albert Verley, Inc.

## PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petroleum, Paraffine Oils, Residues, etc.)  
Atlantic Refining Co.  
Pennsylvania Refining Co.  
L. Sonneborn Sons

## PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.  
American Cyanamid & Chemical Corp.  
John A. Chew, Inc.  
E. I. du Pont de Nemours & Co.  
General Chemical Co.  
Monsanto Chemical Works  
Victor Chemical Works  
Warner Chemical Co.

## PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products  
Associated Chemists, Inc.  
Derris, Inc.  
S. B. Penick & Co.  
R. J. Prentiss & Co.  
McCormick & Co.  
McLaughlin, Gormley, King Co.  
John Powell & Co.  
Whitmire Research Corp.

## SILICATES

E. I. du Pont de Nemours & Co.  
General Chemical Co.  
Philadelphia Quartz Co.  
Standard Silicate Co.

## SOAP DISPENSERS

Ampion Corp.  
Bobrick Mfg. Co.  
Clifton Chemical Co.  
Fuld Bros.  
Garnet Chem. Corp.  
Hockwald Chemical Co.

## SPRAYERS

Breuer Electric Mfg. Co. (Electric)  
Fumeral Co. (Spraying Systems)

## WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.  
American Cyanamid & Chem. Corp.  
T. G. Cooper & Co.  
Distributing & Trading Co.  
Innis, Speiden & Co. (Waxes)  
Lenape Trading Co.  
The Mac Lac Co.  
Mantrose Corp. (Shellac)  
Twin City Shellac Co. (Shellac)



# Professional Directory

## Skinner & Sherman, Inc.

246 Stuart Street, Boston, Mass.

**Bacteriologists and Chemists**

Disinfectants tested for germicidal value or phenol coefficient by any of the recognized methods.

**Research—Analyses—Tests**

H. A. SEIL, Ph.D.

E. B. PUTT, Ph.C., B.Sc.

## SEIL, PUTT & RUSBY, INC.

*Analytical and Consulting Chemists*

Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations

ESSENTIAL OILS

SOAP

16 East 34th Street, New York, N. Y.

## STILLWELL AND GLADDING, Inc.

*Analytical and Consulting Chemists*

Members Association of  
Consulting Chemists and Chemical Engineers

130 Cedar Street

New York City

## SOAPS — DETERGENTS

*Analyses      Development  
Consultation      Formulas*

### Hochstadter Laboratories

254 West 31st St.

New York City

## KILLING

strength of Insecticides

### by PEET GRADY METHOD

PYRETHRINS in PYRETHRUM FLOWERS

(by Gnadinger or Seil Method)

We raised and killed more than 1 million flies in the last 2 years

ILLINOIS CHEMICAL LABORATORIES, INC.

5235 WEST 65th STREET

CHICAGO, ILL.

## Charles S. Glickman

**Consulting Chemist**

SPECIALIZING IN

Research—Analyses—Formulae—Plant Design  
for

Waxes—Polishes—Soaps—Cosmetics & Leather Finishes, etc.

220 BROADWAY, NEW YORK

Cortland 7-3382

## FOSTER D. SNELL, INC.

**Chemists—Engineers**

Every form of Chemical Service

305 WASHINGTON STREET

BROOKLYN, N. Y.

## Patents—Trade Marks

All cases submitted given personal attention  
Form "Evidence of Conception" with instructions for use  
and "Schedule of Government and Attorneys' Fees"—Free

### Lancaster, Allwine & Rommel

PATENT LAW OFFICES

Suite 402, Bowen Building

Washington, D. C.

## ALAN PORTER LEE, Inc.

**Contracting and Consulting Engineers**

*Design and Construction of Equipment and Plants  
for Producing and Processing Fats, Oils,  
Soaps and Related Products*

136 LIBERTY STREET, NEW YORK, N. Y.

Cable Address: "ALPORTLE", New York

## CONSULTANTS

offering their services to manufacturers of soaps and sanitary specialties should apprise the industry of their facilities through this professional card department. SOAP reaches 4,000 firms needing help of a professional nature.

*The New*

## 1940 BLUE BOOK

to be mailed to subscribers to SOAP AND SANITARY CHEMICALS March 1, will carry the revised text of a whole series of official specifications and testing methods for soaps, insecticides, disinfectants, etc.

*The Blue Book is free with a  
\$3.00 subscription to Soap*

## MAC NAIR-DORLAND CO.

*Publishers*

254 W. 31st Street

New York, N. Y.

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

*We have dispensers for powdered soaps, too--*



The No. 33 with the one piece solid bronze body and bracket, hinged lock top, both heavily chromium plated, clear glass jar, concealed wall fastening, is an ornamental asset to the most elaborate wash room . . . The No. 31 will please your industrial customers—pressed steel cover finished in white porcelain, locks into place, concealing the soap supply: tamper proof, theft proof, neat in appearance, it will dispense any type of powdered soap . . . The No. 25 (not shown), built with the same mechanism as the No. 31, is ideal for your "price" business.



*Write us today for prices and detailed descriptions.*

## Bobrick Manufacturing Corporation

15 East 26th Street

Est. 1906

New York, N. Y.

*Host to most  
WHO VISIT BALTIMORE*



## Hooker CHEMICALS for producers of SOAPS INSECTICIDES, SANITARY CHEMICALS

Customers know Hooker as a dependable source of uniformly high qualities of heavy chemicals, solvents and intermediates, including

**PARADI**  
REG. U. S. PAT. OFF.

Hooker Paradichlorobenzene available in six accurately graded crystal-sizes. Clean, clear, free-flowing.

**CYCLOHEXANOL  
METHYL CYCLOHEXANOL**

Technical grade for use in liquid soaps.

**CAUSTIC SODA**

Special grades for soap and sanitary chemicals.



Write for complete list of Hooker Chemicals

**HOOKER ELECTROCHEMICAL COMPANY**

NIAGARA FALLS, NEW YORK

NEW YORK CITY

TACOMA, WASHINGTON

**SILVATEEN  
FOAM AA**

Replaces German Imported Schultz Silica and Neuberger Chalk. Has excellent colloidal suspension and polishing qualities. Ideal for manufacture of government metal polishes.

**VOLCANIC  
ASH**

For scouring powders, cleansers and hand soaps.

**SILICAS  
and  
SILICA SAND**

Amorphous, crypto crystalline and crystalline. Water ground, water floated, and air floated grades. Special grinds for metal polish use to replace imported silicas. **SAVE MONEY**—Send us your specifications.

**TAMMS SILICA CO. 228 N. LA SALLE ST. CHICAGO, ILLINOIS**





## ...the wrong audience?

**I**T MIGHT be the hour, it might be the speaker, and there is always the possibility that it's a question of the wrong audience. He might do very well, perhaps, before the garden club or a sociology class, but it's obvious that he's certainly wasted on this gathering.

The same principles, of course, apply to the advertising policy of your own company. Selling your products is critically dependent on reaching the right audience, which means, logically enough, that you must choose the right advertising mediums.

If you have something to sell to manufacturers of soaps, sanitary products, and chemical specialties, and want to be sure of reaching the right audience, the place for your advertising is in . . .

**SOAP and Sanitary Chemicals**  
254 WEST 31st STREET NEW YORK

*Member of the A.B.C.*

### Tale Ends

**F**ROM a soap manufacturer in the middle west, we have received a letter stating that the last issue of SOAP was not received, and than he states: "We cannot run a soap business without SOAP, and if our subscription has expired, please advise, and we will forward check immediately." This is music to the editor's ears, say we! Thanks for the compliment.

\* \* \*

Just how are you going to label that insect powder and roach powder of yours after next September 1? Read our discussion of labeling in this issue based on interviews and correspondence with enforcement officials.

\* \* \*

What can we use to "fill" our auto soap so that we can cut the cost and sell it cheaper, said an inquirer over the phone yesterday. Knowing the soap in question is already loaded to the limit, we suggested that he try garbage or scrap iron. We believe that everything else has been tried at one time or another as a filler for hard auto soap.

\* \* \*

Question No. 666: "Is your subscription to SOAP paid up? That is, are you holding a subscription renewal bill in your desk? Anyway, make sure that it is paid because the 1940 BLUE BOOK, bigger, better, and more complete than ever will be mailed free to paid subscribers about March 15. Don't miss your copy! Be sure your subscription is in good standing. Copies of the BLUE BOOK go free only to regular paid up subscribers."

\* \* \*

With the constantly changing requirements on labels these days, brave is the manufacturer indeed who has the nerve to order a supply of lithographed cans sufficient for a month ahead.

# *Givaudan Announces* **SOLUBLE RESIN PINE**

*New Fixative Extends Aromatic Life of Pine Compounds*



**I**F YOU are using, or planning to use a pine odor in your product, here is something you shouldn't overlook.

Soluble Resin Pine is a new fixative developed by Givaudan for pine perfumes. It is composed of natural pine derivatives, and when added to your formula it will assist materially in giving longer life to the fresh pine character of the usual constituents, such as bornyl acetate, iso bornyl acetate,

pine needle oil, etc. If you want to extend the aromatic life of the pine odor in your product, we suggest you try Soluble Resin Pine. Samples and further information will be forwarded at your request.

**GIVAUDAN**  
DELAWANNA, INC.  
80 FIFTH AVENUE • NEW YORK, N. Y.

# TRAIL BLAZERS

EVERY industry has its "trail blazers." In the field of pyrethrum concentrates, MGK has pioneered virtually every improvement made in the past ten years.

At left is a reproduction of an advertisement that appeared in the pages of this publication in October, 1929. At that time, PYROCIDE 20 was introduced as the *first* STANDARDIZED pyrethrum concentrate for use in insecticides. There was nothing like it on the market at the time.

There have been later and equally significant improvements in this product. Reminders, all, of the fact that PYROCIDE 20 has blazed the trail throughout the history of pyrethrum concentrates.

**McLAUGHLIN GORMLEY KING CO.**  
MINNEAPOLIS, MINNESOTA

SOAP

Introducing  
**Pyrocide No. 20**  
Standardized Extract of Pyrethrum

**P**YROCIDE No. 20 is concentrated oil soluble extract of pyrethrum flowers, containing all the active principle from 20 lbs. of flowers in each gallon. These flowers contain 97.5% of pyrethrin (active principle).

Pyrocide No. 20 is guaranteed by McLaughlin Gormley King Company to make a satisfactory household insecticide and fly spray when diluted in the proportion of one part of Pyrocide No. 20 to 10 parts of kerosene or light mineral oil.

Such a high concentration insures lowest costs. Several cents per gallon of finished spray is saved in freight alone. It guarantees you a consistent result, year in and year out. Through standardization of pyrethrin content, the method of application was first made possible by application of a great number of experiments designed to prove that the presence of a certain percentage of pyrethrin brings consistently certain results on flies.

Standardization also enables us to quote very low prices. Write us now stating the quantity you might be interested in. Address:

**McLAUGHLIN GORMLEY KING CO., 1715 N. E. Fifth St., Minneapolis, Minn.**

**PYROCIDE NO. 20**  
Oil soluble extract of pyrethrum

See page 14 in SOAP

This 1929 MGK advertisement announced for the first time a standardized pyrethrum product with a guaranteed pyrethrin content.

# PYROCIDE 20



